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CIS/RUSSIA ARMED FORCES

Airborne Troops Chief on Political Crisis

934K0689A Moscow ARGUMENTY I FAKTY
in Russian No 12, Mar 93 pp 1, 6

[Interview with Colonel General Ye. Podkolzin, commander of Airborne Troops of Russia, by ARGUMENTY I FAKTY correspondent D. Makarov: "The Airborne Troops, as Always, Are on Guard"]

[Text]

[Makarov] They say that the army must be beyond politics. But, after all, the military are citizens too, only in uniform, and when all the politicians can do is argue among themselves and they cannot solve either society's problems or the army's, the latter gets dragged into politics willy-nilly.

[Podkolzin] I think so too. The army must stand guard over the law and the constitution, but when the two legally elected powers enter into open confrontation with one another, we, like all other citizens of Russia, have to choose. Although we do not want to do it, the army also cannot be beyond politics because it was created in order to solve political problems in particular...

[Makarov] It seems it was the German historian Clausewitz who said that "war is the continuation of politics only by other means." The more so if one is speaking about civil war. We shall hope that things will not come to that. But we will still have to choose who to follow—the parliament or the president, who is also, according to the constitution, the commander in chief of the army.

[Podkolzin] As a military man I do not take a position on one side or the other. But for me the position of the Supreme Soviet on military matters is unacceptable. The deputies are always leveling insults against the minister of defense, accusing him of treason. There are also voices demanding that he be tried. For what, one asks? For the fact that with immense effort he is withdrawing the troops from Germany, the Baltics, and the CIS countries in an unthinkable short period of time—two to three years? This will be the first time this has happened in the entire history of Russia.

I heard that Ruslan Imranovich reproached the defense minister because young officers are starting to leave the army in droves. But why are they leaving? Because the Supreme Soviet has not yet approved the country's budget. There is nothing with which to pay wages to the military servicemen, there is no money to feed or clothe them.

[Makarov] And so again and again the army is being drawn into politics. Consequently, one might expect that one fine day in the not too distant future, it might try to take politics into its own hands. Actually, that is already happening: General Dudayev—in Chechnya, Aushev—in Ingushetia; General Ochirov is making his way into Kalmykia, and in Russia the vice president, General Rutskoy, would have a good chance of becoming president if there were new elections.

[Podkolzin] This shows that the people trust them, because, after all, they are not gaining power as a result of coups. As a rule, a person who has earned generals' insignia has good organizational capabilities and is able to make independent decisions. DeGaulle, Eisenhower, and Chiang Kai Shek were generals first and then went into politics.

[Makarov] And they did well. But let us speak about our immediate leader—General Grachev. Wicked tongues are saying that in August 1991 he was clever enough to bet on the "right horse" and as a result he skipped many rungs of the ladder and ended up in the minister's chair.

[Podkolzin] In history there are many examples where a person has jumped from the lower rungs of power right to the higher ones and has been successful in his new position. The main thing to General Grachev's credit is that in August 1991 there was no bloodshed even though as commander of the airborne troops at the time he was assigned the task of shedding blood. At that time I was chief of staff of the airborne troops and was not privy to the plans of the State Committee for the State of Emergency. When the time came for troop actions, Yazov and his first deputy Achalov were to have confirmed the order, but when Grachev and I called both of them that night their orderlies answered that the minister and his deputy had given orders not to be disturbed. And then Grachev made the decision not to storm the White House and other targets. By refusing to obey the order he showed political maturity. The soldiers who took charge of the facilities in Moscow had no ammunition with them. That was on Grachev's orders too.

[Makarov] In all countries of the world the paratroopers are a special elite of the army and they serve under contract everywhere.

[Podkolzin] If we were permitted to recruit people under contract we would indeed pick the best chaps, but here too everything depends on the state. What good are the 8,000-11,000 rubles [R] offered to the extended service soldier now?

Every day there is a risk to his health and life. Who will accept that for those wages? According to our calculations, they should be about R50,000, but even our airborne commander receives only R60,000. The military used to have a great deal of patriotism and they would serve conscientiously in the godforsaken boondocks. The concept of patriotism is disappearing today.

[Makarov] If there is no money, that is the end of patriotism... Do your words mean that the airborne troops are falling apart just as the army fell apart in Russia?

[Podkolzin] When meeting with enlisted men and officers I never tire of repeating: Our troops have always been elite and they must stay that way. We can prove this by maintaining a high moral spirit and thus providing an example to all the Russian people.

As commander I can say that the airborne troops on the territory of Russia are fully combat ready, staffed, trained, and prepared to perform any task in defense of the people.

But the hardships we and all the Armed Forces are suffering are difficult to dismiss.

I have four divisions "on wheels" today. One division is being transferred to Russia from Azerbaijan, two from Lithuania, and one from Ukraine. It takes 250-300 military trains to move each division. And all in one year.

[Makarov] How is the troop withdrawal going?

[Podkolzin] With great difficulty. It is especially difficult for the large and small units in the Transcaucasus. The division in Azerbaijan has essentially been under fire for the past five years. It is constantly being fired upon during peace time, people die, and wives have left their officer husbands. These were the conditions under which the brigade in Kutaisi (Georgia) lived, not to mention the airborne units in Abkhazia.

[Makarov] Does Russia still have special troops in addition to the airborne troops?

[Podkolzin] Yes, the Main Intelligence Administration of the Ministry of Defense of Russia still has special-purpose brigades. But there are not many of them left. The fact is that Ukraine, the Baltics, Transcaucasia, and Belarus made up districts which in the event of war would be transformed into fronts of the first echelon. Therefore they include the best intelligence-sabotage units of the GRU [Main Intelligence Directorate] and the KGB and the best airborne divisions. According to the plans, they were to have seized the strategic points on enemy territory before the approach of the main forces. The first echelons, as a rule, also included large supplies of food, ammunition, fuel, and so forth. All this was turned over to the republics on whose territory they were located. And the Russian districts were mobilization districts. As a result, by the will of fate and the politicians, Russia ended up almost without material supplies and without new technical equipment, which also remained with the first echelon. As soon as the technical equipment became obsolete it was sent to the central districts for storage. The question of fair division of army property should undoubtedly have been solved at the government level but, unfortunately, this was not done.

[Makarov] When was the last time, Comrade Commander, that you did a parachute jump?

[Podkolzin] Three years ago. I made a total of more than 800 jumps, but two years ago I had an operation. Now I have recovered and in the near future I will start jumping again. I ruined my health at that time because of a stress situation which unexpectedly developed about three years ago.

[Makarov] ?!

[Podkolzin] Remember at that time there was a big stir in the press about the movement of airborne units near Moscow?

[Makarov] Yes, that was when Yazov explained the movement of the Pskov division by saying it had to dig potatoes.

[Podkolzin] So Gorbachev ordered the troops to go to Moscow and he went to Finland. We brought the troops

into Moscow, but the minister did not tell the Supreme Soviet that he had done this on the president's order, and he showed the Supreme Soviet a map indicating that we were conducting division training. Then, in order to check, they created a deputy commission and I, as chief of staff, had to report to it. I did not leave my office for almost three months while I prepared documents which were supposed to convince the commission that potatoes were all that was involved.

[Makarov] That is, as early as 1990 President Gorbachev tried to introduce a state of emergency?

[Podkolzin] Yes, but as in August 1991, he tried to do it through other people in his absence. But Gorbachev is guilty of more than that. We personally received instructions from him to bring troops into Baku in January 1991 but, as always, he later denied it.

Incidentally, the chief of staff of military transport aviation and I figured out that from 1987 through 1991 we spent R4.5 billion just on moving troops. Troops were sent to all the "hot spots"—Fergana, Osh, Frunze—but Gorbachev always acted as though he did not know anything. It was always unpleasant to watch his speeches on television because you understood that you along with the entire army could see how unpardonably its commander in chief was lying. For everyone knew full well that no troop movement of any size at all was possible without his consent.

[Makarov] But why is it that today you, Yevgeniy Nikolayevich, are recalling the "affairs of days long gone?"

[Podkolzin] Because my heart is heavy and you automatically remember who was to blame for the collapse of the country and the army.

[Makarov] But can you guarantee that the airborne troops will do the same as they did then, that is that the army will not get mixed up in politics with weapons in hand?

[Podkolzin] The airborne troops, as always, will guard the constitution and the people.

CIS: STRATEGIC DETERRENT FORCES

Col-Gen Votintsev on Future of Space Defense Forces

93UM0267A Moscow PRAVDA in Russian 10 Dec 92
p 3

[Interview with Hero of Socialist Labor, Retired Colonel-General Yuriy Vsevolodovich Votintsev by an unidentified PRAVDA correspondent, under the rubric: "Conversation With a Former Incognito": "The Unknown Troops of the Country That Has Disappeared: Hero of Socialist Labor, Retired Colonel-General Yuriy Vsevolodovich Votintsev Answers PRAVDA's Questions"]

[Text]

[PRAVDA] Yuriy Vsevolodovich, few people knew even in our Armed Forces for many long years what post you held in the PVO [Air Defense] Troops. Can we name it now?

[Votintsev] Now we can. A new combat arm was introduced into the PVO—missile and space defense (PRO and PKO) with the status of special purpose troops—in accordance with the 30 March 1967 General Staff Directive. I was appointed the commander in May of that same year. The problems and tasks that the scientists, designers, industry and the builders carried out along with the troops were a state and military secret. And I need to say that we knew how to preserve that secret.

I recall how once Radio Industry Deputy Minister Oleg Losev showed me an American military magazine. Organizational diagrams of the commanders-in-chief of all of the branches of our Armed Forces with an extremely accurate indication of the ranks, names, and positions of the command personnel were listed in it. In the PVO [Air Defense] among the deputy commanders-in-chief, there was only a question mark next to my name. The primary officials of the directorate that had been formed, wonderful people and real professionals, were just as secret for many long years: Lenin Prize Laureates Aleksey Mikhaylov and Vasilii Yedemskiy, and also Yevgeniy Tsvetkov, Yevgeniy Bazhenov, Petr Savoskin, Vladimir Golubev, Nikolay Timofeyev, Anatoliy Mikhaylov, Igor Aleshin, and Viktor Vasilchenko.

[PRAVDA] What dictated the creation of the new combat arm, what weapons were they to have been equipped with, and what kind of organizational structure did they have based on the concept of operations of the country's military-political leadership?

[Votintsev] I want to stress that this was hardly the ambitions of the politicians and military personnel although these assertions are frequently heard today.

The creation of the PRO and PKO Troops was dictated by unceasing scientific-technical progress, on the one hand, and by the dangerous toughening of military doctrine, primarily of the United States, on the other hand. In the 1960's, the assertion of the use of military force as the primary and final means to resolve disputed international problems was the essence of this doctrine.

But in 1967, the development of the Strategic Deterrent Triad had been completed: intercontinental ballistic missiles, nuclear missile submarines, and strategic bombers. The primary potential of the U.S.'s strategic offensive forces was at that time approximately 5,000 nuclear warheads.

As for weapons systems for the PRO and PKO Troops, by the summer of 1967 rough designs for the missile attack warning system (SPRN) and PRO and draft studies for a space defense system (PKO) and for a space monitoring system (SKKP) had been developed. Tests of experimental models of weapons were occurring at the test range at Balkhash and construction of the main facilities for the missile attack warning system and PRO was being conducted in the Moscow suburbs, in the Baltic Region, and in the Polar Region.

The units' authorized organizational structure was developed while considering the facilities' distinctive quality

and technological saturation: radio communications hubs, missile defense centers and weapons complexes. Later they were consolidated into independent divisions, corps and an army. From the very beginning of troop manning, a course was taken toward professionalization. More than 60% of all personnel were officers and warrant officers.

[PRAVDA] What job levels did you need to pass through in order to head such unique troops?

[Votintsev] I think that I was entrusted to command, as you have said, these unique troops not at all because of the unique nature of the service assignments that preceded this one.

I joined the CPSU in 1940 after early graduation from the artillery school and four years of service as a line commander. I fought until 1945, having begun from the position of battalion commander and ended as commander of artillery of a guards rifle division.

I studied at the Academy imeni Frunze from which I graduated with a gold medal in 1947. After service in the Far East, I graduated from the General Staff Academy in 1955, also with a gold medal. Then I served in the PVO Troops.

[PRAVDA] I would like to learn how your assignment to the post of PRO and PKO Troops commander occurred?

[Votintsev] For me, this was totally unexpected. At the end of April 1967, PVO Troops Commander-in-Chief Pavel Batitskiy summoned me to the State Central and Scientific Research Test Range which is near Lake Balkhash. There he also told me about the Military Council's decision to recommend me for a new high post. For Batitskiy, the matter had been decided. He did not ask my concurrence and he had flown there primarily to discuss the issue in Tashkent and Alma-Ata with Republic Leaders Sharaf Rashidov and Dinmukhamed Kunayev and with Turkistan Military District Commander Nikolay Lyashchenko. The display of such tact by the commander-in-chief surprised me quite a bit since tact was not inherent to him at all. The fact the he had obviously been kept informed about the concerned and even zealous attitude of the military district's republics' leaders toward the independent army headed by me played a decisive role here.

I was soon summoned to the CPSU Central Committee for a conversation. Organizational Section Head Nikolay Savnikin received me. He just informed me that CPSU Central Committee Secretary for Defense Issues Dmitriy Ustinov had acquainted himself with my personal file and had expressed a rebuke—why couldn't the PVO have selected a major engineer for this position. He hoped I wouldn't be upset if the assignment did not occur.

[PRAVDA] But did the meeting with Ustinov nevertheless take place?

[Votintsev] Yes, literally the next day. After several protocol questions, Dmitriy Fedorovich suggested I describe how the level and quality of weaponry is assessed in the army troops. I decided to frankly report on the substantial shortcomings I had discovered through my operational

experience, although I knew that Ustinov was the head of the native military-industrial complex and it supports him in everything.

I realized what the reaction to such a report could be... In a word, it was clear what kind of reaction there could be. Nevertheless, Dmitriy Fedorovich did not interrupt me even once, he just made some sort of notes from time to time. When I had finished, he asked several clarifying questions. And then he asked: could I report all of that to Leonid Ilich Brezhnev. I replied affirmatively.

Having already said goodbye, Ustinov said that according to my future service I would have to work with Chief Designers and Academicians Aleksandr Mints and Grigoriy Kisunko. Each of them creates his own local weapons systems and I needed to attempt to unite their efforts since they occupy irreconcilable positions with regard to ideas and design decisions. This would permit the reduction of time for their development and would also reduce state expenditures.

[PRAVDA] We should assess these parting words of Ustinov's as approval of your assignment. The next stage was the meeting with Brezhnev?

[Votintsev] I entered the office of the CPSU Central Committee General Secretary on Staraya Ploshchad on 11 May 1967. Leonid Ilich was standing near an open window with his jacket unbuttoned and he smiled. He interrupted my report: "You don't need to make noise..." After hugging my shoulder, he sat down alongside me and said: "The Central Committee is blessing your assignment. Dmitriy Fedorovich asked me to listen to you. But have you seen how many people are in the waiting room? Let's do this: I will be at one of your facilities in the near future, and there we will discuss all of this in detail."

Brezhnev never visited any of our facilities.

[PRAVDA] We know that the PRO and PKO Troops were the subject of special concern for the CPSU Central Committee. How did you sense this in the process of performing your duties?

[Votintsev] First of all, I want to direct your attention to the fact that the General Secretary's blessing was still not a juridical fact of my assignment. It occurred after the USSR Minister of Defense's order.

From the first days, I encountered the fact that all of the missile attack warning system and PRO facilities, at which by that time work had already begun, were being developed in execution of CPSU Central Committee and Council of Ministers decrees. At first, I assumed that these directive documents were being prepared at the Central Committee and Council of Ministers staff. Later, when I and other specialists had the opportunity to directly participate in the development of the drafts of these decrees, I understood the nature of this versatile and creative work and what role the CPSU Central Committee played in it.

[PRAVDA] At the Russian Constitutional Court, the presidential side has repeatedly asserted that the CPSU Central Committee decrees on the most important issues of the

functioning of the state are evidence of the fact that the Party was not a social organization but the dominant state structure.

[Votintsev] I cannot agree with that assertion. Work on the drafts of the decrees on the PRO and PKO Troops was begun at the PVO Troops NII [Scientific Research Institute]. A special directorate of strategic assessment and prediction of the development of offensive weapons had been created. Such major scientists as Yuriy Lyubimov, Vadim Zhuravlev, and Yevgeniy Sirotinin worked at it. The tactical-technical tasks for the new weapons systems were developed based on the results of analysis, mathematical modeling and full-scale experiments. In the process, they took into account periods for development of approximately 5-6 years and future operation for no less than 10 years.

The main criteria were: high effectiveness and reliability with the minimally permissible period for development and cost. The tactical-technical requirements were reviewed at the level of Georgiy Baydukov of the Main Ordering Directorate, Mikhail Nenashev, and my directorate and, after the Commander-in-Chief's approval, were sent to the military-industrial commission. Chairman Leonid Smirnov, his Deputy Leonid Gorshkov, and also Viktor Karetnikov, Vyacheslav Dubrovskiy and Nikolay Zaykin, as a rule, had a positive attitude toward our demands. However, we had to sustain a prolonged, grueling battle with the powerful chief designers because new complex scientific-technical problems were being placed before them.

We were also faced with overcoming the stubborn resistance of the ministries-monopolists. The Ministry of the Radio Industry, Ministry of the Aviation Industry, Ministry of the Electronics Industry, and others had to retool production, master a new component base, and erect new plants.

Contradictions between the customer and organizations of industry who were insisting on a substantial reduction of the assigned requirements frequently resulted in conflicts. During the resolution of disputed issues, the CPSU Central Committee Defense Industry Department, in which such major scientists and engineers as Nikolay Detinov, Viktor Fedorov, and Gennadiy Savasteyev worked, acted as the level of last resort. The approved plans were submitted for the Council of Ministers chairman's signature and sent to the Central Committee.

[PRAVDA] Yuriy Vsevolodovich, an enormous country existed in those years about which we are speaking. A population of nearly 300 million was residing on one-sixth of the earth's surface. What weapons systems did the PRO and PKO Troops have at their disposal to defend them?

[Votintsev] I would place the missile attack warning system in first place based on significance. It was designed for timely and highly reliable detection of a nuclear missile attack that was launched from any continent or from any point of the World Ocean's water area with transmission of the information to the command and control facilities being notified. The system was consistently developed as a

comprehensive system that uses various ballistic missile physical detection principles from the moment of launch and along their flight trajectory.

The missile attack warning system was constructed in two echelons. Ballistic missile launch detection by a group of spacecraft in various orbits and, until the recent past, by over-the-horizon radar detection complexes was in the first echelon. Over-the-horizon radar complexes that were deployed in the border areas and that form a continuous circular field were in the second echelon.

Aleksandr Mints, Anatoliy Savin, Vyacheslav Kovtunenkov, Vyacheslav Repin, Yuliy Polyak, and Frants Kuzminskiy were the chief and main system designers. Vladimir Strelnikov, Ivan Slukhay, Nikolay Rodionov, Nikolay Kislyakov, Viktor Panchenko, Gennadiy Vylegzhanin, Nikolay Zavaliy, Valentin Kusikov, Anatoliy Mikhaylov, Viktor Smirnov, Anatoliy Blinov, Vyacheslav Shumilin, and Ivan Poltava made a huge contribution to its development and mastery. The most complex engineering complexes and the most well-equipped housing areas were built under the leadership of Konstantin Vertelov, Aleksandr Karaoglanov and Nikolay Chekov.

This system became a reliable restraint for any aggressor. It guaranteed that the possibility of a surprise, unanswered nuclear missile strike had been excluded.

[PRAVDA] We have looked into an up to now unknown abbreviation—SPRN. Now, let's look into the PRO and PKO matter.

[Votintsev] We consider 4 March 1961 as the birthday of PRO. The destruction of a ballistic missile by an anti-missile missile with a fragmentation warhead was carried out at the test range for the first time in the world on that day. This achievement of native science and technology was so stupendous that we can judge it albeit by the fact that a similar nonnuclear destruction of a ballistic missile would take place only 23 years later in the United States.

Grigoriy Kisunko was the chief designer of the firing complex and Petr Grushin was the chief designer of the anti-missile missile. An experimental complex was being developed under their supervision at the range in the middle 1960's and work was beginning on the Moscow ABM system. It was intended for the destruction of a group of single-warhead ballistic missiles. The system was modernized with the appearance of ground-based and sea-based multiple independently targetable reentry vehicle, from three to ten, missiles in the United States by 1971. A new Moscow ABM system was developed after the missiles were equipped with ABM penetration systems and with dozens and hundreds of light and heavy decoys.

A prominent role in the solution of the problem of ballistic missile defense belongs to the following scientists and designers: Grigoriy Kisunko, Petr Grushin, Aleksandr Musatov, Vladimir Sosulnikov, Vasilii Shershavin, Mikhail Mymrin, Boris Bunkin, Ravgata Baliyev, Sergey Lebedev, Gennadiy Legasov, Aleksandr Mints, Yuliy Khariton, Viktor Sloka, Anatoliy Basistov, Mikhail Mino-syan, and Benjamin Lyulyev.

Kisunko and Musatov made the greatest contribution to the development of the ABM defense system. But they were removed from the project during the most intense period of work on the system due to intrigues at the Ministry of the Radio Industry.

Those commanders and engineers who successfully mastered and operated the military hardware should not and cannot be forgotten: Ivan Varyshpolets, Anatoliy Penkov, Vladimir Malikov, Dmitriy Bashtan, Ivan Poddubnyan, Mikhail Tyurin, Yuriy Sokolov, Iosif Orel, Alik Zikeyev, Viktor Kryukov and the system's other pioneers.

I will have to repeat but I do this with satisfaction. Once again for the first time in the world, an experimental interceptor-spacecraft with a fragmentation warhead destroyed an artificial earth satellite—the target—in August 1970. This permitted us to place the space defense complex on combat alert in 1979. Work was productively conducted to expand the complex's combat capabilities by Chief Designers Anatoliy Savin and Vyacheslav Kovtunenkov.

At the beginning of August 1983, we learned at a meeting with First Deputy Chief of the General Staff Sergey Akhromeyev that Yuriy Vladimirovich Andropov would announce in one of his next speeches that we would unilaterally cease space defense system testing. I categorically objected, however, on 18 August 1983, our head of state's announcement was made and the complex became quiet.

And, finally, on the problem of monitoring outer space. It did not suddenly arise but during the course of mastering space for military purposes. The only space monitoring center (TsKKP) in the country had been developed by the present time. It is equipped with "Elbrus" computers with speeds of tens of millions of operations per second. The space monitoring center operates in the automatic mode and receives information on space objects at altitudes of up to 40,000 kilometers from the missile attack warning system, ABM, optical-electronic, and laser detection systems. The space monitoring center maintains, continuously updates, and adds to the main catalog on 10,000 space objects and their fragments.

[PRAVDA] If, as you said, that is the only center of this type in the country, it obviously has to carry out tasks not only of a military nature?

[Votintsev] Of course. Many of the country's departments and organizations utilize the space monitoring center's information. Orbits are being continuously calculated for manned spacecraft that preclude their collision with artificial earth satellites and with other fragments for the Main Space Systems Directorate (GUKOS).

You certainly recall the accident situations, incidentally PRAVDA reported them, that arose with Cosmos-954 and with Cosmos-1402. Both had nuclear power plants. World society was concerned: Where and when will the Cosmoses fall. So, the prediction of the American experts on this score was made with errors and our prediction was precise.

[PRAVDA] And have you had occasion to work with manned spacecraft?

[Votintsev] Yes, I have. In the spring of 1985, The Salyut-7 Space Station experienced a power failure as a result of an accident while flying in the automatic mode. As before in similar situations, Main Space Systems Directorate's TsUP [Flight Control Center] did not have contact with the space station. According to space monitoring center data, the multi-tonne space station had begun to descend rapidly and should have fallen to Earth in large fragments with unpredictable consequences. Flight Leader Valeriy Ryumin came to see me and asked me to provide guidance so that the Soyuz T-13 Transport Space Craft with Vladimir Dzhanibekov and Viktor Savin on board could dock with the space station.

Soyuz T-13 was guided to the space station and was docked under manual control. Dzhanibekov and Savin revived Salyut-7 based on the space monitoring center's calculated data using Chief Designer Grigoriy Kisunko's Argun Range and Measurement Complex.

Vyacheslav Repin, Aleksandr Kuriksha, Yuriy Ochkasov, Vladimir Sidelnikov and Nikolay Ustinov were the space monitoring center's main developers. Ippolit Yukhnovich, Vladimir Nikolskiy and Ivan Sergeev did outstanding work on this system.

[PRAVDA] What, besides the commander, linked these four troop weapons systems which you have told us about and did such unity in general exist?

[Votintsev] You know as well as I do that the current state of society is confirmation of the fact that any separations or delimitations occur easily and simply. A difficult path of surmounting, in our case, interdepartmental ambitious resistance, led to unification. It is on this position that many chief and main designers and the collectives of their associates stood. It is sad to recall that when they frequently painstakingly hid their "know-how", not from foreign intelligence, but from each other and from the customer. But they were carrying out the same task. This separateness resulted in the fact that each system operated in a local mode, in an individual system of coordinates, and had its own fleet of computers with their algorithms and software.

Based on my position, I constantly had to be the chairman of the project review commission. Every time, I had to combat the individualism that was set forth in them and to strive for the reduction of system development time and expenditures. Standardization requirements were introduced slowly and without desire which complicated operation in the future.

We found understanding of the problem from PVO Troops Commander-in-Chief Aleksandr Koldunov and from Radio Industry Deputy Minister Vladimir Markov and, finally, obtained the support of the Council of Ministers Military-Industrial Commission. The designers were compelled to agree to conduct substantial software enhancements. They also caused the consolidation of all systems

into a single combat cycle. But at what price? The additional work took approximately 2-3 years and required the utilization of nearly 30% of the memory and speed of the computers.

But the goal which Dmitriy Fedorovich Ustinov spoke to me about during our first meeting was achieved. This permitted us to perform command and control of the PRO and PKO Troops from a single command post.

[PRAVDA] It's understandable that no new project, all the more so such a massive one as strengthening the country's defense capability, progresses smoothly. During the course of the development of the troops, were there errors and miscalculations and ChP [extraordinary events] associated with them?

[Votintsev] I would be going against the truth if I did not speak the truth about how the over-the-horizon radar complex on the northeastern missile threat axis was developed. It should have closed a continuous radar field along the USSR's external border. Based on studies and modeling of the special research directorate led by Doctor of Technical Sciences, Professor, Major-General Yevgeniy Sirotin, that complex could be deployed only in the area of Norilsk or Yakutsk.

When that issue was examined by Chief of the General Staff Nikolay Ogarkov, I was simply dumbfounded that this intelligent, farsighted man, supported by Deputy Minister of Defense for Construction Nikolay Shestopalov, rejected the Norilsk variation and demanded that we develop a new complex only in the area of Yeniseysk. It was obvious: The provisions of the 1972 ABM Treaty with the United States that restricted ABM systems would be violated under this decision. Despite our further objections, Ustinov publicly stated at the next large session that if anyone in PVO still dared to object to Yeniseysk, he could say goodbye to his post.

The Americans recorded the progress of work on the complex using space reconnaissance systems. And when its primary structures became visible, they lodged a protest which our government was compelled to accept.

[PRAVDA] What was the price of this error?

[Votintsev] On 1 January 1987, construction expenditures totaled 203.6 million rubles and the cost of technological equipment was R131.3 million. At the present time, some of the already erected structures are being dismantled and are being converted into a furniture factory. I hope that it will begin to produce products since the 1972 ABM Treaty does not stipulate any restrictions whatsoever on that score.

By 1970, 1,054 intercontinental ballistic missiles hung over us like the Sword of Damocles. They were located at bases on the territory of the United States and at that time composed the foundation of their nuclear missile forces. An important role was assigned to the over-the-horizon radar in the development of a comprehensive warning systems that was capable of detecting missile launches and of transmitting information in 2-3 minutes, but it did not prove worthwhile.

[PRAVDA] Does it turn out that the over-the-horizon radar was also a miscalculation?

[Votintsev] In the final analysis, yes. The launches of native missiles from areas of the Far East and the Pacific Ocean water area against the range at Novaya Zemlya were successfully detected on the experimental model of the Duga-2 over-the-horizon radar site. These results were obtained under conditions of a mid-latitude flight path and a relatively calm ionosphere. Chief Designer Frants Kuzminskiy, supported by our NII, the ordering directorate and myself, proposed the development of an over-the-horizon radar complex in the area of Chernigov and Komsomolsk-na-Amur.

We assumed that they would be capable of reliably detecting a group or massive launch of missiles from the territory of the United States. In the process, a miscalculation was permitted that led further work into a dead end. These new radar sites in operation under conditions of northern latitude routes across the Polar Cap with the continuous chaotic impact of the ionosphere turned out to be capable of detecting only a massive launch. Yes and this was with limitations. The complexes were not accepted into the inventory. Total costs were approximately R600 million.

I have attempted to exhaustively answer your question. And I caught myself thinking that the errors and miscalculations that were permitted did not interfere with the confident formation of the troops and did not affect the high level of their combat readiness and the moral state of people. The PRO and PKO Troops, despite their youth, acquired prestige and power during the 25 years of their existence. During all of this time, not one of our probable enemies even attempted to put this in doubt. They were struck from an unexpected side.

[PRAVDA] Yes, the country's political and economic collapse occurred due to the ill will of the well-known troika. What are the PRO and PKO Troops right now? How reliably is Russia covered from missile strikes and from space now?

[Votintsev] It is difficult to talk about that. But believe me, I am not being motivated by an insult or by a feeling of bitterness when, as they say, 25 years of the intense labor of scientists, the defense industry and military personnel is being exchanged for five-kopek pieces before my very eyes. The PRO and PKO troop formation has been substantially disrupted and combat capabilities have been reduced, including for the defense of Russia. Let's turn to the facts.

I have already said that I consider the missile attack warning system to be the foundation of the troops. A large part of the radiotechnical missile flight trajectory detection complexes have now turned out to be on the territory of Latvia, Belarus, Ukraine, Azerbaijan, and Kazakhstan that are persistently seeking their subordination to the republics. These complexes, that have a strictly limited missile detection sector, are incapable of carrying out their mission outside of a single comprehensive warning system.

The Dnepr sites, that have already operated for more than 20 years and are technically obsolete and the equipment is worn out, were deployed at facilities in the area of Riga, Mukachevo, Sevastopol, Balkhash, and Irkutsk. Another 2-3 years will pass and they will simply fall to pieces. Now financing has been terminated and work has ceased at facilities in nearby foreign countries. If the development of new sites is not immediately continued and completed, the CIS, and therefore Russia, will find themselves without ballistic missile detection systems on flight trajectories from the northwestern, southwestern and southern axes.

[PRAVDA] Is the preservation and improvement of a single warning system possible with the current political situation that has developed in the CIS?

[Votintsev] I am convinced that there are no situations without solutions. This has become my lifelong credo. If only goodwill would be manifested. What do we have to do right now? I think that we must conclude bilateral political treaties on the maintenance of the missile attack warning system facilities as Russian bases under strictly stipulated lease terms. An example of that is the more than 1,000 U.S. bases on foreign territories. This totally relates to the Baykonur test range in Kazakhstan from which launches of parts of the missile attack warning system spacecraft are carried out and the optical-electronic space monitoring system complex that is located in Tajikistan in the area of Nurek that is being subjected to armed attack.

And the last thing. PRO and PKO Troops weaponry has been manufactured at plants that are located not only in Russia but also in Ukraine, Belarus, and in other CIS countries. The cooperation that has developed over the decades must definitely be preserved and strengthened. Only this will permit completion of the work that has already begun and support operation of the facilities with spare parts. The main thing is to stop fighting scientific-technical progress and persistently continue the improvement of the weaponry of the missile-space defense troops.

[PRAVDA] What dictated that last sentence of yours: patriotism for your own combat arm or the experience of the difficult errors named by the genius Poet's son?

[Votintsev] If you have in mind "patriotism" in its first sense, then yes, I am a patriot. However, I reject any displays of "hurrah-patriotism". Experience is certainly the main thing that determines what I have said. Here is a characteristic example for you.

In July 1983, false information on a massive missile launch from the territory of the United States was formed at the space system command post based on information from onboard a spacecraft. Imagine, what could have been presented to the leadership of the country and the armed forces before any decision could have been made? Fortunately, a real professional, Lieutenant Colonel-Engineer Stanislav Petrov was carrying out the duties of operations duty officer at the command post at that time. He instantaneously and without panic analyzed and assessed the situation and prevented the transmission of false information to the missile attack warning system command post. As it was subsequently learned, the cause lay in the

malfunction of the combat program. A malfunction occurred in the onboard computer during a drastic shift of the spacecraft from an environment illuminated by the Sun into the shade.

[PRAVDA] It turns out that peace hung by a thread?

[Votintsev] This is not quite right. Information only on a missile launch can be processed based on space systems data in the missile attack warning system complex. Information on missile attack required confirmation of the fact of a missile attack by the over-the-horizon radar sites. But this is certainly an extremely serious incident. A commission under the chairmanship of First Deputy Chief of the General Staff Colonel-General Valentin Varennikov was appointed by a Minister of Defense order on this extraordinary case.

I had the opportunity to meet with Valentin Ivanovich many times on official business. In my perception—he is an intelligent, widely educated, with a firm will, brave and at the same time good-natured man. A servant of duty, honesty and conscience. He scrupulously and objectively conducted the investigation. PVO Troops Commander-in-Chief Aleksandr Koldunov and I had the opportunity to be present during his report on the results of the investigation to Ustinov. Despite the fact that, judging by the atmosphere of the meeting, the mutual relations of the minister and the General Staff leadership were strained, Dmitriy Fedorovich accepted the report without questions, comments or organizational conclusions.

[PRAVDA] What was the missile attack warning system command post and what tasks did it carry out?

[Votintsev] The command post is the most important element in the missile attack warning system complex. In totally automatic mode, the command post receives exhaustive information on the technical state of all system assets and missiles detected. Warning information is also immediately issued to the Supreme High Command command and control facilities and Russian Armed Forces service command authorities that being informed on the Krokus special indicator panel.

I remember how the three of us—Missile Attack Warning System Chief Designer Vyacheslav Repin, Independent Special Purpose Army Commander Vladimir Strelnikov and I—depicted on paper the sketch of the face panel and how we christened it “krokusenok” [small crocus] for the special suitcases of the country's and Armed Forces highest leadership.

[PRAVDA] Incidentally, as it always happens, people always talk more about something which no one knows anything about. I have in mind the “small black suitcases” and the “nuclear button”. What do you know about that?

[Votintsev] Almost nothing. That is a development of the Strategic Missile Forces and the General Staff. I can only assert that the previously mentioned “krokusenok” is utilized as an effective source of information on missile attack of the highest organs of state and military command and control.

[PRAVDA] The many years of military competition between the USSR and the United States certainly affected the PRO and PKO Troops. We have looked into what was created from our side. How were similar problems resolved by the Americans?

[Votintsev] The U.S. military-political leadership had to consider the USSR's mighty nuclear missile potential. Especially during the prolonged period of the Cold War. A nuclear missile attack warning system was also developed in the United States.

While resolving the problem of ballistic missile defense, the Americans deployed the Safeguard ABM complex at Grand Forks Air Force Base. And when they became convinced of its inability to destroy our multi-warhead ballistic missiles, they were compelled to remove it from combat alert in 1976.

In 1983, Ronald Reagan set forth the idea of “Star Wars”—SDI. Based on this program, scientific research and experimental design work is being conducted along a broad front to this day. Its goal is the development of effective weapons that destroy ballistic missiles using various physical principles. Several variations for building a territorial ABM system have been examined. There has not yet been a decision to deploy it.

Testing of the ASAT space defense complex was successfully completed in 1987. The use of manned Space Shuttle spacecraft with space weapons installed on them, including laser weapons, as strike weapons in space has not been excluded. The United States has deployed radar and optical electronic space monitoring posts in various regions of the world.

There haven't been either victors or vanquished in our constant competition with the Americans on these types of weapons. The presence of these weapons systems on both sides previously cautioned and now caution us from a suicidal temptation.

[PRAVDA] Today the “space minds” of Russia and the United States are combining efforts in the development of a single ABM system. You do you assess that?

[Votintsev] Even if you hadn't pose that question, I would still consider it obligatory to express my attitude toward that idea as a professional military man and Russian citizen.

In June 1992 in Washington, Boris Yeltsin and George Bush examined the possibility of joint work on a global defense system (GZOU). This system will inflict a crushing blow on the 1972 ABM Treaty which has served for 20 years as a deterrent to confrontation and a further arms race. The practical realization of the global defense system seems impossible to me within the framework of this document that was concluded for an indefinite period of time. It turns out that we will once again forgo the principles of our security in favor of the United States after the many years of our government's struggle for unswerving compliance of all of the treaty's terms from both sides.

Deputy U.S. Secretary of State Eagleburger recently unambiguously defined to what extent the joint global defense system will consider the interests of both countries: The goal of not inflicting damage to the U.S.'s national interests is the first priority and the consequences for American manufacturers must be only positive is the second priority. It is utterly obvious that while creating a global system, the U.S. would like to involve nearly 1,000 of our best scientists and engineers in the work and to take advantage of native technology where we have outstripped them by 10-15 years for a low price. They intend to control the global defense system themselves. But all of the experience of the development of missile-space defense both in our country and in the United States convincingly confirms that these systems can be effective with the highest degree of automation and with the essential condition of reliable command and control from a single command post.

There is no other alternative formation for the global defense system. And if it will be created under the U.S.'s terms, then, as always, he who pays the piper calls the tune.

[PRAVDA] Yuriy Vsevolodovich, you belong to that small category of people whose fate turned out to be tied to little known, unique pages of modern military history. Today's conversation with you—is only calculated episodes from it. Do you intend to talk in more detail about what you have lived through to your descendants?

[Votintsev] I am working on a book. A large part of it has been written. I plan on completing it next year. The working title is "Bez mirnykh dney" [Without Peaceful Days].

I am grateful to the PRAVDA editorial staff for the opportunity to talk about the PRO and PKO Troops for the first time in the open press. The complexity of the missions that we carried out and the truly space height of the assigned task determined the selection of people who were capable of creating them and controlling them. Before my eyes, young Russian engineers and officers grew to be major scientists, designers and military leaders. It's possible that I seemed to be annoying when I was listing their names although I named far from everyone...

We were able to give far from everyone their due, as they deserve it, either during their lives or even after their premature departure from it. The intense, to the limits of human capabilities, and selfless labor dramatically foreordained that early, irreparable departure. A low bow and grateful memory to each.

CIS: GROUND TROOPS

Fundamentals of Combat Employment of Aviation

93UM0228A Moscow VOYENNY VESTNIK in
Russian No 10, Oct 92 (signed to press 21 Sep 92)
pp 60-64

[Article by Colonel B. Napolov]

[Text] Modern combined-arms combat has a clear-cut ground-air nature. Success is achieved in it through joint operations of all Ground Forces and air arms. High

combat qualities of aircraft, helicopters and drones permit building up subunit and unit firepower, supporting them with reconnaissance, and supporting assault-transport and special missions.

Makeup, Missions and Combat Capabilities of Aviation

As a rule, air support to motorized rifle or tank regiment combat operations is accomplished under the senior commander's plan. In those instances where a unit operates on an independent axis or in isolation from the division main body, it can be assigned a sortie capability of helicopter subunits (up to one squadron sortie) or have 4-6 helicopters attached (each with a 3-4 sortie capability) for the period of the combat mission.

Each day a total of 16-30 front aviation sorties and 40-46 army aviation helicopter sorties, including 20-24 combat helicopter sorties, can be flown in the regiment's defensive area (or zone of advance) in its support.

The primary missions of front aviation are to engage helicopters and other targets at basing and staging sites; personnel, combat equipment and weapons in the depth of the enemy combat formation; airborne assault forces and raiding detachments; brigade and division reserves and engineer structures on their routes of forward movement; and command and control system installations.

Army aviation can perform a vast range of missions. First of all, fire missions—engaging enemy tanks, artillery, anti-tank and other armored weapons, and personnel in strong-points and in combat and approach march formations; engaging airborne assault forces, airmobile units or subunits, and raiding and reconnaissance parties; and destroying enemy helicopters in the air. Secondly, assault transport missions—carrying subunits; evacuating wounded and sick; and delivering supplies and ammunition. Thirdly, reconnaissance missions—performing aerial reconnaissance of the enemy, radiation and chemical reconnaissance, and engineer aerial reconnaissance; and observing the FEBA and battlefield. And finally, special missions—adjusting artillery fire; minelaying from the air; and laying smoke (aerosol) screens.

Aviation capabilities are evaluated by indicators of mission performance time, depth of combat operations, mathematical expectation of the number of destroyed targets, load-carrying capacity of the helicopter or subunit, number of targets discovered or reconnoitered, as well as the number and size of minefields being laid and so on.

Based on exercise experience and calculations, supporting the regiment's combat operations to the full depth of its assigned mission is fully within the capability of aviation. Army aviation response time does not exceed 15-20 minutes when operating from staging points and front aviation response time does not exceed 20-30 minutes from primary-basing airfields. In one sortie a pair of Mi-24p combat helicopters is capable of destroying 5-6 tanks or IFV's in the open or 3-4 tanks (1-2 IFV's) in emplacements. A pair of Mi-8mt transport-attack helicopters is capable of carrying 7.2 tonnes of cargo or up to 48 persons with authorized weapons, and a pair of reconnaissance

helicopters is capable of performing a search in 2-3 areas of up to 50 km² each and discovering 2-3 targets in so doing. A pair of Mi-8mt helicopters lays a 400x60 m or 800x30 m minefield.

On the whole, with the allocated sortie capability, in 24 hours army aviation can destroy 50-72 armored targets in the open (30-48 in emplacements), lay 10-11 minefields or discover 20-33 enemy targets, or carry 72-80 tonnes of cargo or 480-576 persons with authorized weapons.

In a sortie by one flight (4 aircraft), front aviation operating in support of the regiment is capable of destroying up to 16 enemy helicopters at 1-2 points, or neutralizing a tank (motorized infantry) company in the open (or a platoon strongpoint), or neutralizing 1-2 brigade CP's, or delaying the advance of a tank (motorized infantry) battalion for a period of up to one hour when there are detours on the route (up to three hours in their absence). With the allocated sortie capability, front aviation is capable of performing a four to seven times greater volume of missions in 24 hours.

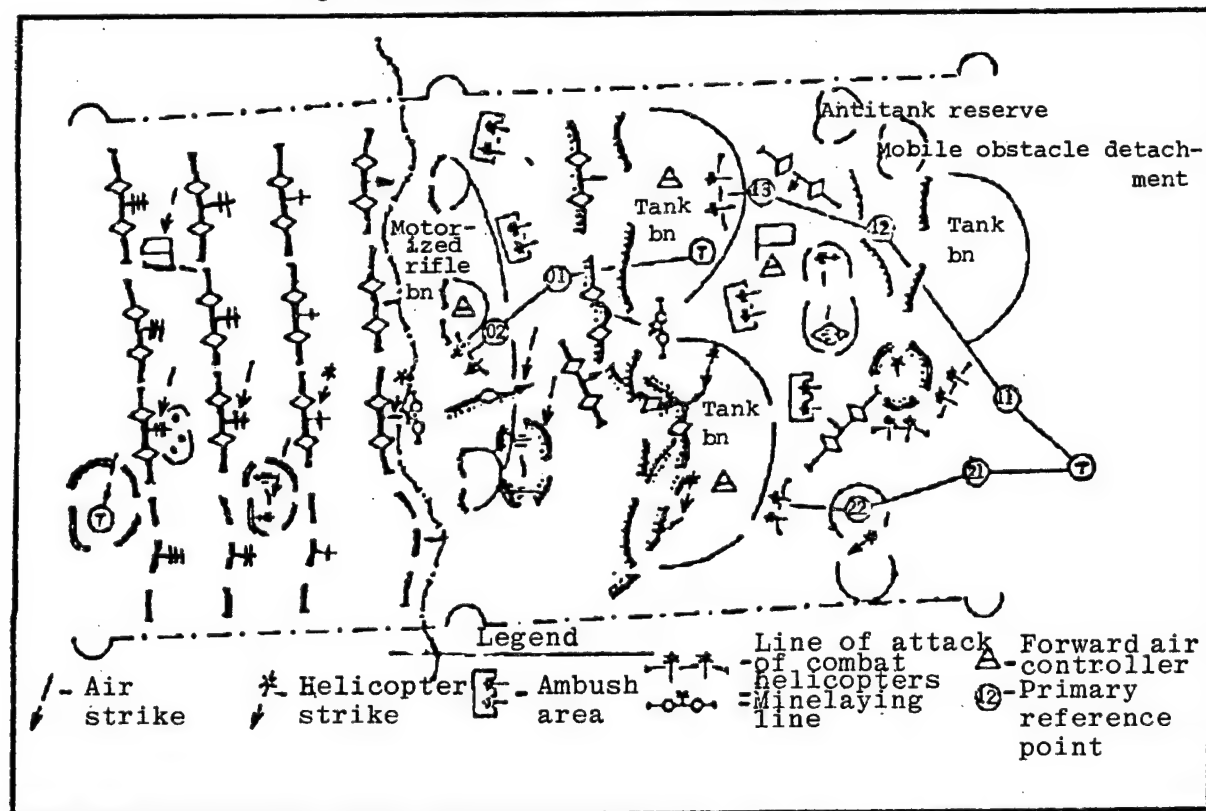
The regimental commander and staff assess aviation combat capabilities in decisionmaking and then update them in the course of battle.

Procedure for Employing Aviation

Front aviation is employed in support of the regiment as a rule by decision of the army commander, and army aviation by decision of the division commander. The procedure for its employment is communicated to the regiment in an operation order, in coordination instructions, and in an excerpt from the air combat operations schedule for the 24 hour period. In case the regiment is assigned a sortie capability (or aviation forces are attached), the procedure for use of the sorties (or employment of forces) is determined by the commander. He must determine the fire missions in the defense (or periods of fire engagement in the offensive) in which air subunits are involved and the sequence of their execution.

Air support is given to the regiment in the defense to a depth of 12-15 km and is accomplished in the battle for each position (Fig. 1). Primary strike targets are tank and motorized infantry subunits on lines of deployment and at the final coordination line, artillery at firing positions, helicopters at staging points, first echelon battalion and brigade CP's, groupings which have wedged in or penetrated, brigade reserves and the engineer works on routes of their forward movement, tactical airborne assault forces, airmobile subunits, and raiding and reconnaissance parties.

Fig. 1. Combat employment of aviation in a regimental defense



Primary efforts (up to 70 percent of forces and sortie capabilities) are concentrated on air support of the regiment for preventing the enemy's forward movement and deployment, during battle in the security area (at the forward defense position) and while repulsing an assault. As a rule, aircraft and combat helicopter subunits are assigned one and the same target (tank or motorized infantry battalion) or they are employed on one and the same axis. This permits increasing air strike effectiveness and ensuring the necessary degree of target damage.

When the enemy arrives at the line of deployment into battalion and company columns, his tank and motorized infantry subunits are engaged by successive strikes of attack aircraft with ATGM's. Assault transport helicopters lay minefields on forward movement routes if necessary. Successive strikes are delivered by combat helicopters at lines of deployment into platoon columns. In this period attack aircraft destroy helicopters at staging points and artillery at firing positions. Some combat helicopters (one or two pairs) are in constant readiness to support covering-force subunits. When the enemy arrives at the final coordination line, combat helicopters deliver a simultaneous strike against him.

In case the enemy wedges into the defense, combat helicopters, operating as an airborne antitank reserve, destroy

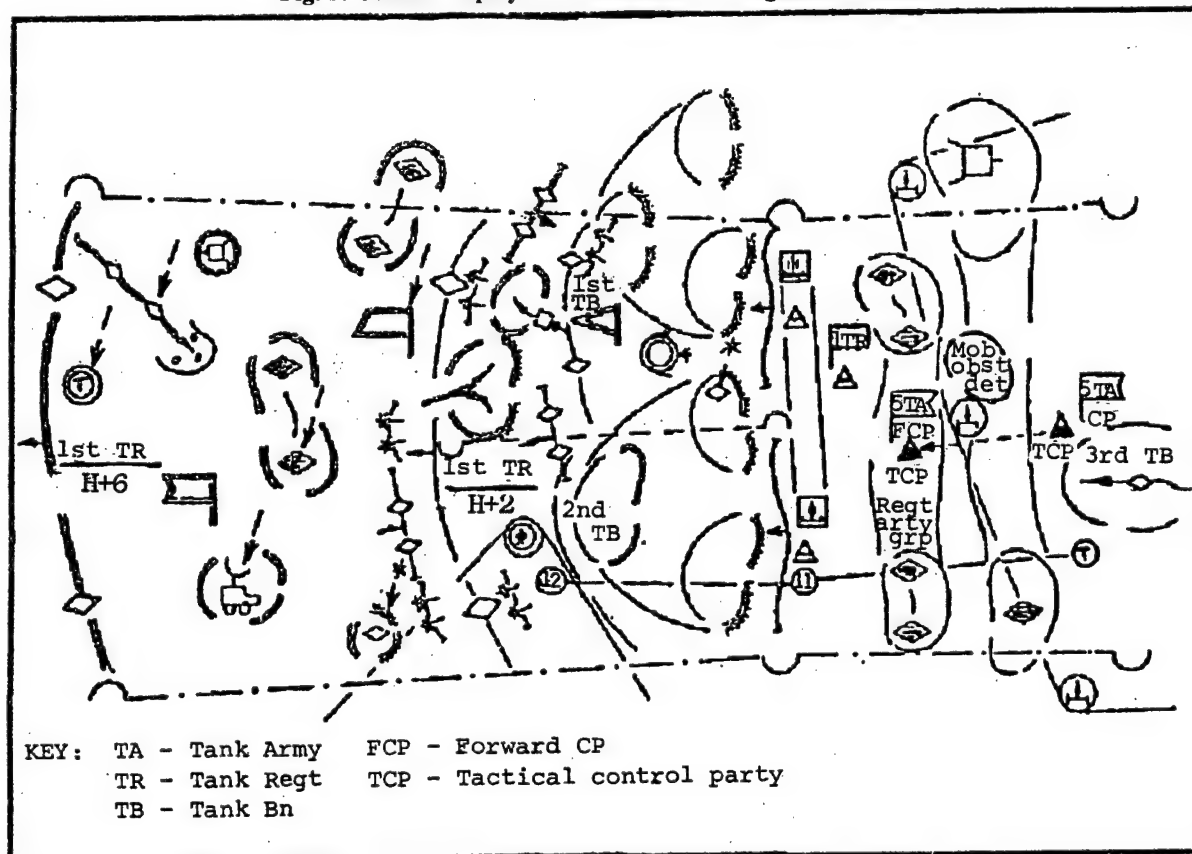
tanks and IFV's which have wedged in or penetrated and attack aircraft inflict damage on the brigade follow-on forces when they advance to the commitment line. Assault transport helicopters lay minefields on axes of penetration or breakthrough and a portion of the forces destroy tactical airborne assault forces, airmobile subunits and raiding and reconnaissance parties in coordination with the antitank reserve.

In the offensive (Fig. 2) air support is given the regiment to the full depth of its assigned mission, usually for two periods: air support of the assault and close air support of attacking subunits in the depth.

Strongpoints which were not neutralized during fire preparation, artillery at firing positions, helicopters at staging points, first echelon battalion and brigade CP's and counterattacking enemy subunits become the primary targets of air strikes.

It is common knowledge that artillery support of the assault usually is accomplished to the full depth of the enemy's first position by the successive fire concentration method. Therefore before the regiment executes the immediate mission, primary air efforts are concentrated on engaging the enemy brigade follow-on forces, his helicopters at staging points, and artillery at firing positions.

Fig. 2. Combat employment of aviation in a regimental offensive



Attack aircraft and sometimes also fighter-bombers are used to engage them. In this period combat helicopters are in readiness to repel a possible counterattack, and assault transport helicopters are in readiness for operations as part of a mobile obstacle detachment to lay minefields on forward movement routes of brigade follow-on forces to the counterattack line.

With the regiment's execution of the immediate mission, air efforts are transferred to destroying enemy tanks, antitank weapons and other armored targets. As a rule, combat helicopters are used to engage them. Attack aircraft continue delivering strikes against enemy helicopters at staging points and in ambushes, artillery at firing positions, and command and control facilities.

With the regiment's execution of the subsequent mission, air support continues with delivery of individual strikes (usually on call) against targets whose destruction supports development of the offensive.

Certain restrictions should be taken into account in planning use of aviation. For example, no more than two flights of attack aircraft (fighter-bombers) can "work" (against

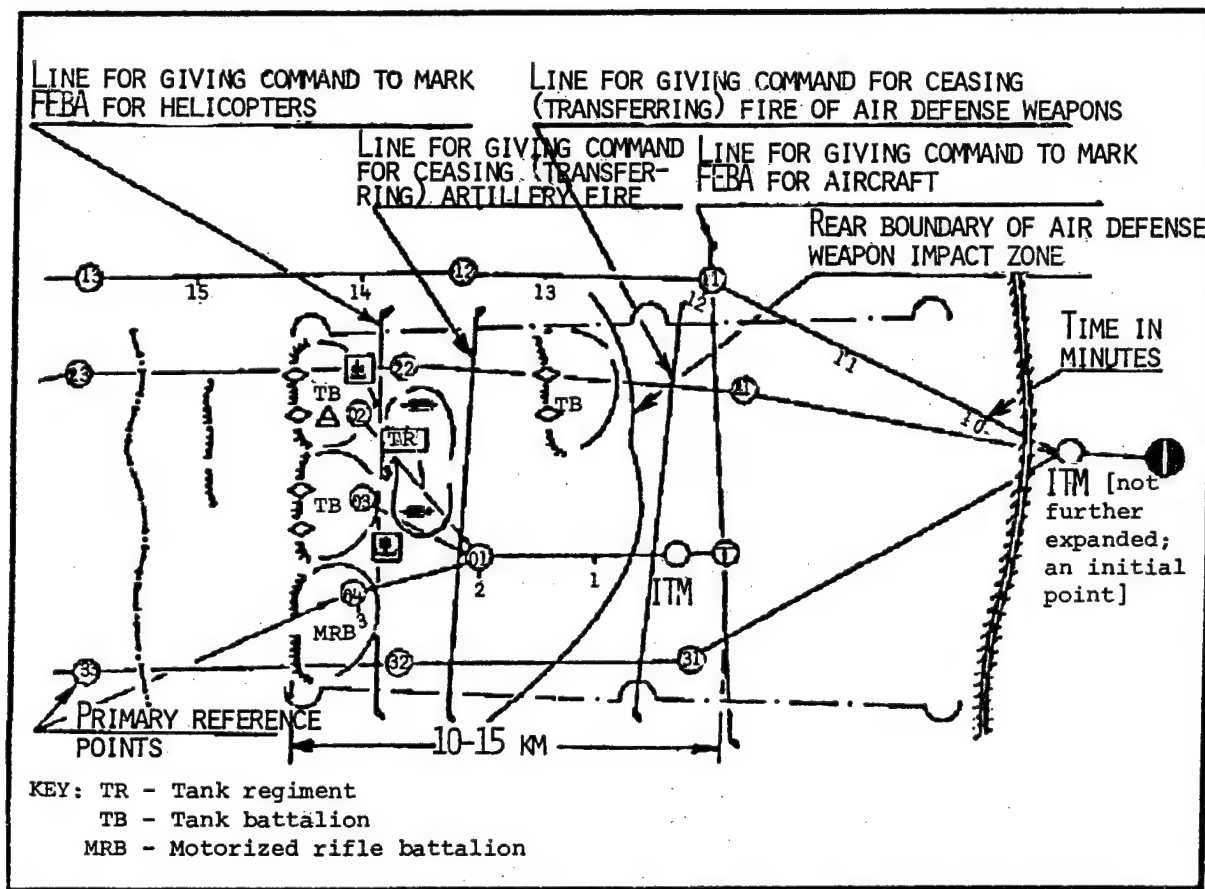
two targets) in the regiment's defense area simultaneously (without entering the adjacent regiment's defense area in executing a maneuver), and no more than 3-4 flights of combat helicopters against 3-4 targets. In the offensive, one flight of attack aircraft (fighter-bombers) can operate against one target, and two flights of combat helicopters against two targets.

Organizing Coordination with Aviation and Fundamentals of Its Command and Control in Combat

If aviation is employed under the senior commander's plan, the regimental commander and staff coordinate with it through the forward air controller the operations of first-echelon battalions, regimental artillery group, anti-tank reserve, mobile obstacle detachment and second echelon (combined-arms reserves), and also operations of air defense weapons when combat helicopters are destroying enemy helicopters in the air.

Efforts are coordinated on maps or on the terrain (or a terrain mockup) by the method of instructions from the

Fig. 3. Elements reflected on work maps of chiefs of combat arms and services and tactical air controller based on results of coordination of operations



regimental commander and reports from subordinates (including the forward air controller), with a run-through of tactical episodes.

In all cases the following are communicated to subunits: targets and time of operation of aviation, attack lines of combat helicopters and directions of repeat target runs (or of departure from the target), combat helicopter airborne alert zones, lines for laying minefields (aerosol screens, smokes), staging points, ambush site areas, flight routes of aviation to and from strike targets, coordination signals, and other matters (where necessary).

Air subunits are informed of the regiment's mission, outline of the FEBA (position of forward subunits), regimental artillery group firing positions and air defense weapon launch positions, situation and missions of the antitank reserve and mobile obstacle detachment, characteristic reference points in the regimental sector or area, location of the forward air controller, targets and time of regimental artillery group fire assaults against them, directions (sectors) and altitudes of air defense weapon fire, target designation procedure (procedure for denoting strike targets), and coordination signals.

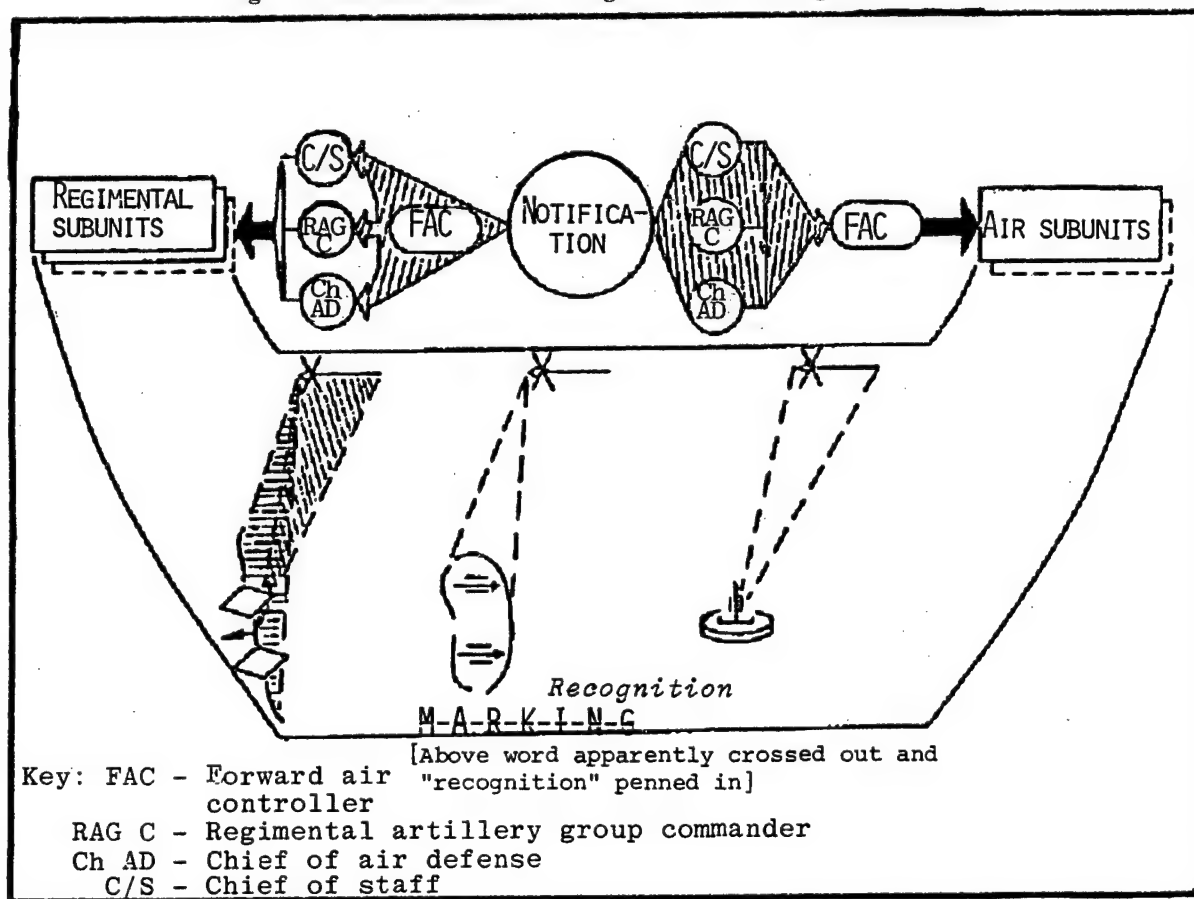
Results of coordination of regimental subunit operations with aviation are reflected in the battle plan, in the coordination plan schedule, and also on work maps (Fig. 3) of the artillery commander, regimental artillery group commander, chief of air defense, other chiefs of combat arms and services and the forward air controller.

During battle it is important to maintain continuous coordination with aviation. This requires knowing the situation constantly, monitoring precise fulfillment of combat missions and the planned procedure of operations, updating it promptly, preserving reliable communications, and promptly issuing appropriate signals.

Safety of regimental subunits and aviation against mutual destruction is assured by prompt mutual notification and recognition (Fig. 4). The important thing here is timely communication of information (signals, commands) about one's actions. Radio or wire communications as well as signaling devices are used for notification. When regimental officials and the forward air controller are at the same command and control facilities, all questions are resolved by personal contact.

Information (signals, commands) is communicated to regimental subunits over radio nets of the chief of staff,

Fig. 4. Mutual notification and recognition of air and regimental subunits



artillery commander (regimental artillery group commander), and chief of air defense; and to air subunits over the air control radio net. In addition, those officials can exchange information using the division coordination radio net.

The essence of mutual recognition is regimental and air subunits promptly marking their position. In addition to radiotechnical and signaling devices, they use identifying characteristics (aircraft and helicopter silhouettes, direction of movement or flight, time of operations—also altitude for aviation—and so on).

The regimental commander indicates to subunit commanders (chiefs of combat arms) and to the forward air controller the mutual notification and recognition procedure: who notifies and recognizes whom, when and using what means, and the basic marking signals. The staff organizes communications among assigned personnel and regimental and air subunits (through forward air controllers), determines the requisite number and disposition of marking posts and points, supplies them with signaling devices, announces prearranged signals or codes for recognition or marking, and determines the procedure for putting them into effect. During battle the regimental staff and forward air controller constantly monitor actions of regimental and air subunits by mutual recognition and if necessary ensure that they give marking signals promptly.

The regimental commander and staff can control aviation engaging enemy targets on the FEBA through the forward air controller. Their functions include calling aviation to the battlefield, updating missions for it (retargeting it), vectoring, and target designation. The request is made under several options. If aviation is operating under the senior commander's plan in support of the regiment, the regimental commander personally makes a verbal request to the senior commander or through the forward air controller to the tactical control party. If the unit has been assigned a sortie capability, he sends the appropriate signal there. Finally, if aviation forces have been attached to the regiment, the command for takeoff goes to the air subunit.

As a rule, the combat mission (strike target) is updated for the air subunit when the request is made or right in the air after takeoff and after coming up in communications with the forward air controller. The latter retargets aviation personally or through the chief of the tactical control party if it is necessary to assign aviation a new combat mission (or to indicate a new strike target that is more important at the given moment).

To vector aircraft or helicopters to strike targets, the forward air controller gives commands ensuring they are taken to a position permitting them to detect, identify and attack the target without having to swing around and set up a run. In the final phase of vectoring (as a rule, at the visible range of targets) he transmits brief, precise, understandable information to the crews about the target's location and nature.

Various methods are used in vectoring and target designation: the heading or azimuth method, by grid squares of a coded map grid, using marking equipment, by manmade

visual markers, by indicating target location relative to a primary reference point, and also according to characteristic reference points on the final target heading and at the target.

The latter is simplest and most accessible for combined-arms commanders. In this case a helicopter crew is led to a very conspicuous reference point (built-up area, lake, road fork and so on) situated on friendly territory at least 3 km from the FEBA. Then a target designation is given relative to unified reference points on enemy territory.

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Specifications, Description of 9MShM 120-mm ATGM

93UM0228B Moscow VOYENNNY VESTNIK
in Russian No 10, Oct 92 (signed to press 21 Sep 92)
p 93

[Unattributed article: "9MShM ('Faktoriya') Antitank Guided Missile"]

[Text] The 9MShM portable ATGM is intended for engaging visually observed tanks and other small armored targets that are stationary or moving at different target angles at a speed up to 60 km/hr and at ranges from 75 to 2,500 m. The ATGM can be used for effective fire against light enemy field fortifications and weapon emplacements.

The 9MShM projectiles are fired from the 9P135 (9P135-M) portable launcher. The control system is semiautomatic with commands transmitted over a wire communication line.

Advantages of the 9MShM ATGM compared with ATGM's of earlier development (including the 9MSh-2 ATGM) are a greater range of fire and target kill effectiveness.

Simplicity of operation, high mobility, concealment, small weight and size, high reliability, capability of launching a projectile from an emplacement and from occupied positions on level, forested, broken, marshy and high-mountain terrain (up to 3,000 m above sea level) as well as from armored equipment places the 9MShM ATGM on a qualitatively higher technical level compared with ATGM's of the first generations.

In specifications and performance characteristics the 9MShM is at the level of the best modern foreign models of this class, which permits it to compete successfully on the world market.

The 9MShM ATGM consists of a rocket projectile and propelling motor system accommodated in a sealed container, which at the same time is the launch tube for the projectile.

The projectile is a rocket-propelled, wire-guided flying vehicle with shaped-charge warhead. Aerodynamic control

surfaces with electromagnetic drive situated in the nose section are used as the projectile's controls.

The propelling motor system in the rear of the container serves to give the projectile its initial velocity.

The 9MShM projectile design permits one person to carry two in a pack or allows transportation by any form in a packing box.

The projectile retains its combat and operating characteristics and safety during and after an airborne landing in authorized packaging.

Principal Specifications and Performance Characteristics

Target kill range, m	
Minimum	75
Maximum	2,500
Projectile caliber, mm	120
Wingspan, mm	369
Average flight speed, m/sec	180
Weight of 9MShM projectile, kg	12.9
Weight of two 9MShM projectiles in box, kg	Not over 54.5
Projectile (container) dimensions, mm	150x205x1,098
Box dimensions, mm	
Height	322
Width	478
Length	1,251
Range of operating temperatures, °C	-50...+50

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Description, Performance of T-80 Tank

93UM0328A Moscow VOYENNYE ZNANIYA
in Russian No 11-12, 92 pp 20-21 & text from C4

[Article by Tank Crewman Senior Lieutenant A. Zayets:
"Tank From the 'Era of Stagnation'"]

[Text] Many of our readers, including P. Kadushkin (Moscow Oblast), B. Sultimov (Buryatiya), Kh. Mudarov (Chechnya), V. Osykov (Cherepovets), S. Kosukov (Orel Oblast), B. Mambetov (Kyrgyzstan), and K. Feklenko (Poltava), have been asking us for a long time and persistently to talk about the T-80 Tank. That opportunity has finally presented itself.

Our "tour guide" in this modern combat vehicle is experienced tank crewman Senior Lieutenant A. Zayets.

The development of the T-64 and T-72 tanks in our country in the 1960's-1970's laid the foundation for the development of the main battle tanks that have replaced medium and heavy tanks. They combine in themselves the mobility of the former with the fire power and protection of the latter. The T-80, developed at Kirov Plant and accepted into the inventory at the end of the 1970's, had to become the primary vehicle of the 1980's. Let's take a closer look at it.

The T-80 has a classic arrangement: the driving compartment is located in the forward section; the fighting compartment, the turret that rotates 360°, is in the center; and, the engine-transmission compartment is in the rear. It has a three-man crew: the driver-mechanic (in the hull), the gunner and the tank commander (in the turret)—to the left and right of the gun.

The main thing in a tank is weaponry. The T-80 has adequately varied weaponry and it consists of a 125 mm smoothbore gun, a PKT [Kalashnikov Tank Machinegun] 7.62 mm machinegun twinned with it, and an NSVT 12.7 mm antiaircraft machinegun over the commander's hatch and smoke grenade launchers. The crew has AKS-74 assault rifles in a special stowage area, three Makarov pistols and F-1 hand grenades.

The D-81TM 125 mm gun, known in the West as the "Rapira-3", was used for the first time on the T-64 and from there was already "migrated" to the T-72 and T-80. The gun was installed in the turret and stabilized in two planes using electrohydraulic stabilizers. Their control is carried out using levers on the gunner's control panel but manual control has also been provided for using an elevating and traversing mechanism. The gun's combat load includes armor-piercing-subcaliber (BPS), shaped-charge, and high-explosive-fragmentation (OFS) munitions. Separate loading, the case is semicombustible, that is, only a metal sabot that is extracted using automatic extractors is left after firing of a round. Armor-piercing-subcaliber rounds permit the penetration of modern tank armor at grazing-fire range (more than 2 kilometers). High-explosive-fragmentation rounds are comparable in their destructive force with regimental and division artillery rounds, thanks to which tanks can be used to conduct fire from concealed firing positions. The shaped charge projectile also has a good armor-piercing capability and is used to combat armored targets and also, if necessary, as a high-explosive-fragmentation round, although with less effectiveness.

A large part of the combat load is located in the loading mechanism (MZ). The loading mechanism is a ring conveyor that is located in the hull under the turret and that rotates independently of the turret under the feet of the command and the gunner. Projectiles are arranged horizontally and charges are arranged vertically in its ammunition trays. During loading, the gun independently assumes the position at the needed angle and the conveyor turns while delivering the required projectile to the supply line. A special lever raises the ammunition tray which rises opposite the gun's breech. The projectile and charge are placed in a single line and the rammer pushes them into the loading chamber. After the round has been fired, the ammunition tray where the fired sabot falls is lowered and the gun returns to the line of aim. A red light lights up within the gunner's field of view—which is the signal that the gun is once again ready for firing.

There is a special device that memorizes the types of munitions in the ammunition trays during loading so that the loading mechanism delivers the required projectile and that indicates to the commander on a circular panel how

many and what kind of projectiles remain on the conveyer. The gunner selects the projectile through a simple flip of a switch on the gun sight and by pushing a button that issues the command to load. Manual loading is also possible.

But the T-80's main strength is in its fire control system that is joined in a single system with a tank ballistics computer. If previously the gunner had to resolve that task independently, determining dozens of parameters that affect the accuracy of firing a round "by eye", now electronics does this.

The temperature of the air and of the charge, atmospheric pressure, and bore wear are manually loaded into the computer prior to combat. Having noted a target, the gunner measures the range to it using a laser rangefinder that automatically enters the range into the computer. Based on the tank ballistics computer's signal, the gun assumes the needed elevation angle. Adjustments for the ballistics of the selected projectile, the wind, and information about the speed and turning angle of the vehicle are entered into it.

So, at the moment a round is fired, the gun occupies a strictly defined position that ensures the greatest probability of hitting the target and the sight continues to be held on the target. It remains only to press the button that fires the projectile but in the event the tank suddenly violently shakes on a rut and the axis of the bore ceases to coincide with the direction selected by the tank ballistics computer, firing will not occur. A special unit resolves this only after the stabilizer returns the gun to the required angle.

Night vision devices that operate in both the active and passive mode serve to ensure the effectiveness of firing at night. In the former—targets and terrain are illuminated by an infrared spotlight that is located to the right of the gun.

The PKT twinned machinegun, installed to the right of the gun, is rigidly connected to it and is also aimed through the main gunsight, for which there are risks that correspond to the ranges to the target. The tank commander conducts fire from the anti-aircraft gun. Of course, it is difficult to hit a modern aircraft from a machinegun but the concentrated fire of several vehicles can substantially impede or totally thwart an attack of an antitank helicopter. Incidentally, from the experience of the war in Afghanistan, heavy machineguns also sometimes shot down ground attack aircraft operating against targets at low speed and altitude.

This is the vehicle's fire power. And if the tank itself ends up under enemy fire, does the crew have a chance to survive? The T-80's high survivability is ensured, first of all, by the vehicle's small dimensions, its high mobility and masking features in various spheres of the thermal spectrum. Second, there is the powerful armor protection. Because the vehicle's weight increased to 42 tonnes, but its dimensions and the armored area were reduced, the density of the armored increased. The hull's forward plate and the forward portion of the turret are of a spaced-armor, multi-layered design. The sides are covered with armor and rubberized-fabric screens and in recent years the bow of the hull, the bow, roof and sides of the turret, and the

side screens are being covered with dynamic protection canisters to up to half the length of the vehicle. The armor design withstands the fire of tanks and antitank weapons from a distance of 1.5-2 kilometers in a range of relative angles of fire from 0° to 30-45°.

The T-80 is also equipped with a collective protection system from weapons of mass destruction. A radiation and chemical reconnaissance instrument sensor constantly monitors the environment and signals about a threat in a timely manner. If a nuclear explosion occurs in a threatening proximity, the engine will be shut down automatically and the louvers will close automatically prior to the arrival of the shock wave and the supercharger with a filter-fan system will be turned on after it has passed which creates a so-called overpressure (that is, the pressure is higher than atmospheric pressure) in the tank using filtered air which prevents OV [toxic substances] and radioactive dust from ending up inside the tank.

The armor has been covered from the inside by a special synthetic liner that withstands rapid neutrons that are formed in especially large quantities during the explosion of neutron munitions. Each crew member has an individual antiradiation vest.

The tank is equipped with a quick-acting fire suppression system. Special sensors that are located in various parts of the vehicle instantaneously react to combustion and the fire-extinguisher suppresses the fire within milliseconds.

However, everything that we have discussed so far is also inherent to the latest versions of the T-72 and T-64 tanks. The T-80's primary difference is its power plant. A gas turbine was used as a primary power plant for the first time in world practice. The GTD-1000T gas turbine engine is a tri-shaft, 1000 horse power, gas turbine engine. The GTD's principle of operation is that a fuel-air mixture burns in a special chamber and the stream of gases that is formed in the process rotates the turbocompressors that supercharge air into the operating turbine. Engine torque from the turbine through the reducing gear is transmitted to the onboard transmissions. The engine is air-cooled.

The transmission design is of great interest. It consists of two epicyclic-type side gearboxes (BKP) and two epicyclic reduction gear trains that transmit revolution directly to the drive wheels. There is no main clutch and its role is carried out by a regulating valve apparatus that turns the turbine's blades parallel to the gas stream. The gearbox supports four forward gears and one reverse gear. Speed on a paved road in 4th gear exceeds 70 kilometers per hour. If it is necessary to complete a turn, the driver moves the appropriate lever and the transmission in the gearbox is reduced to a gear lower. This ensures a small turn radius (the tank turns practically in place in 1st gear).

The drive train has six wheels just like on the T-64 and T-72. It has a torsion bar suspension, and telescoping hydraulic shocks are located on the first two and last wheel. The track with a rubberized metal joint and openwork track center guides is rubberized on the external contour.

The T-80 can negotiate water obstacles along the bottom for which it has a directional gyro to maintain course under water, a pump to pump out water that has accidentally penetrated into the tank, and two special pipes are also installed. One, large diameter, feeds air to the engine and exhaust gases are expelled through the second.

The vehicle is equipped with a radio transceiver, a tank intercom system, a hydropneumatic windshield washer for the sighting and surveillance instruments and also with defrosters, a thermal smoke device, a fighting compartment heater, etc. Removable roller and blade-type mine sweeping devices, a tank bulldozer, and snow removal equipment have been provided for. It has a blade to dig a trench for itself.

As a specialist, I can say with certainty that based on its combat effectiveness the T-80 does not lag behind any third generation foreign vehicles and exceeds them in many ways. It is continuously being improved and although I can't talk about all of the innovations, I can say that Soviet tank building has not surrendered its positions in the world, despite the at times not quite "intelligent" (putting it mildly) conversion. While the threat of war exists in the world (and the events in the Persian Gulf are an example of that), there is a need for this weapon.

The T-80 Tank	
Weight	42 Tonnes
Crew	3 men
Power Plant	GTD-1000T Gas Turbine Engine with 1,000 Horsepower Output
Speed on a Paved Road	more than 70 kilometers per hour
Weaponry	"Rapira-3" 125 mm Smoothbore Gun and a PKT [Kalashnikov Tank Machinegun] 7.62 mm machinegun twinned with it; an NSVT 12.7 mm anti-aircraft machinegun

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2S19 "MSTA-S" 152-mm Self-Propelled Howitzer

93UM0356A Moscow *TEKHNIKA I VOORUZHENIYE* in Russian No 11-12, Nov-Dec 92 p 42

[Unattributed article under rubric "Information, Advertising"]

[Text] It is intended for destroying tactical nuclear weapons, artillery and mortar batteries, tanks and other armored equipment, antitank weapons, personnel, command and control facilities, and air defense and ABM defense weapons, and for demolishing field fortifications.

The self-propelled howitzer (self-propelled gun by old terminology) consists of an armored hull and armored turret. The hull accommodates a multifuel 573.5 kw (780 hp) diesel engine, transmission, and control mechanisms. The running gear has torsion-bar suspension and hydraulic shock absorbers which damp the mount's vibrations both on the move as well as during firing.

The following are installed in the turret: 152-mm howitzer with laying and sighting systems; automated projectile feed system which includes a conveyor for ground feeding; actuating mechanism for coordination of angles with projectile feed from stowage; onboard parking power unit with autonomous fuel system; air filtration and ventilation equipment; communications system, including internal telephone and external wire and radio communications; and a system for sealing the breech end of the howitzer to prevent gas contamination of the fighting compartment. Projectiles are dispensed according to a preset program. An antiaircraft machinegun mount is situated on the turret.

Deployed weight 42 tonnes. Crew of five (seven when firing from the ground). Range 500 km. Maximum speed 60 km/hr. Obstacles negotiated: ditch 2.8 m wide, wall 0.5 m high, ford 1.5 m deep, water obstacles (with underwater kit) 1,000 m wide and 5 m deep. Time for conversion from traveling to deployed configuration and back 1-2 minutes.

Diagram of Crew Position in 2S19 Howitzer

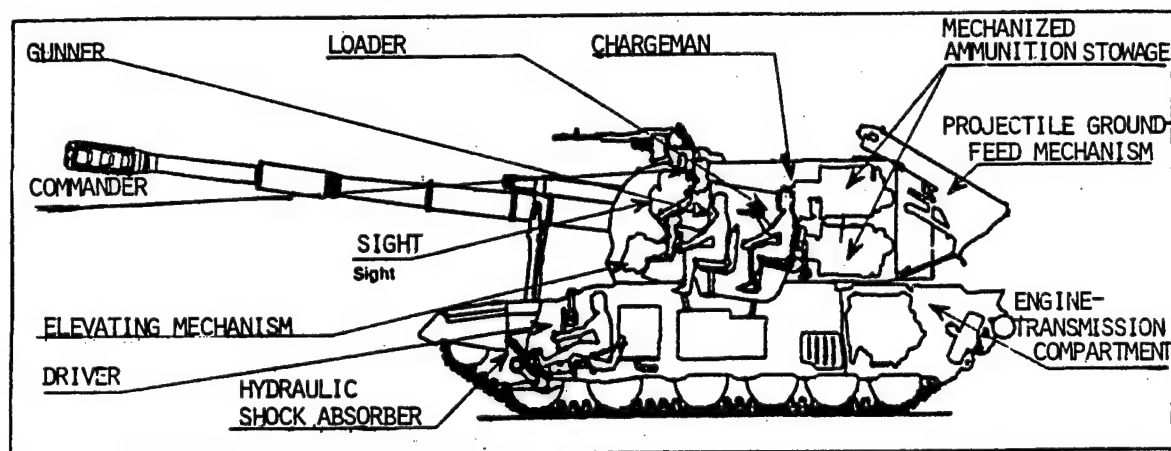
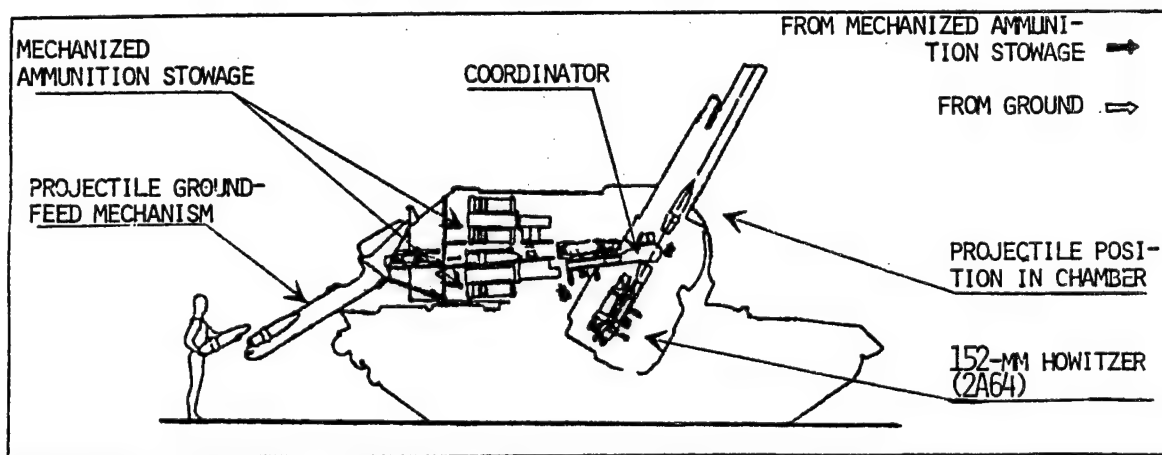


Diagram of Ammunition Ramming in 2S19 Howitzer



Maximum range of fire 24.7 km. Laying angles: 360° horizontally, from -4 to -68° vertically. Rate of fire 7-8 rounds per minute. Unit of fire 50 rounds. Caliber of antiaircraft mount 12.7 mm. Range of aimed fire 2,000 m. Rate of fire 700-800 rounds per minute. Unit of fire 300 cartridges.

Send for additional information and send requests as follows:

Moscow, Gogolevskiy bulvar, Spetsvneshtekhnika State Foreign Economic Company for Export and Import of Armament and Military Equipment. Telephone numbers: (095) 296-24-91, 202-29-07, 202-98-07. Fax: (095) 230-23-91, 203-29-88.

Bashkortostan, Sterlitamak, ul. Gogolya, 124, Sterlitamak Machine Building Plant. Telephones: (34711) 3-19-20, 4-94-13, 4-11-26. Fax: (34711) 4-35-77.

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Tank T-72M

93UM0356B Moscow *TEKNIKA I VOORUZHENIYE* in Russian No 11-12, Nov-Dec 92 pp 46-48

[Article by I. Sutyagin: "T-72M Medium Tank"]

[Text] This vehicle was developed by a design bureau under the direction of V. N. Venediktov and became operational in 1973. Because of its high technological effectiveness the T-72 became the most mass-produced Soviet tank of the second postwar generation. A V-46 four-stroke diesel engine with driven centrifugal supercharger is installed in it. The cooling system does not differ fundamentally from those used in the first postwar generation of tanks. Its feature is a cardan drive to the blower from a vertical reduction gear, supporting operation in two speed modes.

Two seven-speed planetary side transmissions are connected by a common shaft through a vertical reduction gear. Gears are shifted by a valve mechanism. The vehicle is turned by shifting to a lower gear in the lagging side's

transmission. The running gear has six dual road wheels and three support rollers per side. The rubber-tired wheels are 0.76 m in diameter. Road wheel discs are cast from aluminum alloy. There is a torsion-bar suspension. The high quality of its shafts supports great dynamic play of road wheels. The tracks have rubber-metal joints. The upper part of the tracks and hull are covered with a shield designed to resist small-arms fire.

The D-81TM 125-mm gun and coaxial PKT [Kalashnikov tank machinegun] are stabilized in two planes. Rounds for the gun have separate loading (the propelling charge is in a combustible case) and are accommodated horizontally in rotating ammunition storage dispensers, with the projectiles under the charges. Before a round is fired, the ammunition storage is rotated so the sector with the necessary type of projectile has come up to the hoist grips. Then the hoist delivers the dispenser to the loading line and the rammer delivers the projectile and charge into the breech in turn. After the round is fired the base disc of the combustible case is automatically ejected through an opening in the rear of the turret roof. The unit of fire includes armor-piercing, shaped-charge, and HE-fragmentation projectiles.

The gun's rate of fire is 8 rounds per minute (6 rounds per minute for the T-72AK tank), or 1-2 rounds per minute with manual loading. Grazing-fire range for a fin-stabilized armor-piercing discarding-sabot round is 2,100 m. Maximum range of aimed fire is 4,000 m when firing discarding-sabot and shaped-charge projectiles and 5,000 m for HE-fragmentation projectiles. A longitudinal level permits firing from indirect positions to a range up to 9,400 m. The weight of the HE-fragmentation projectile is 33 kg and that of the case with propelling charge almost 8 kg.

During the day the gun is laid to ranges of 1,000-4,000 m using the TPD-2-49 monocular stereoscopic rangefinder sight with independent vertical stabilization of the field of view. A ballistic computer is combined with it which in computing firing data takes into account the type of projectile, air temperature and humidity, as well as crosswind

effect. The night sight is designed for a range of 800 m. All crew members have day and night observation devices. Night optics are illuminating; the L-2 illuminating infrared searchlight is accommodated on the right side of the gun mask and the OU-3 is on the roof of the commander's cupola. The Utes general-purpose NSVT [tank anti-aircraft machinegun] is accommodated on the rotating commander's cupola. There is a capability for installing dynamic protection ("active armor") elements.

The tank is equipped with several special systems. One is a system for protection against mass destruction weapons intended for protecting the crew as well as assemblies and hardware situated within the tank from the shock wave, penetrating radiation, radioactive and toxic substances and bacteriological warfare agents. High effectiveness of protection against those factors is achieved through rapid (automatic) sealing of manned tank compartments and creation of an overpressure (a head) of purified air. The system simultaneously gives light and audible signals of the presence of radioactive or chemical contamination outside.

The system's basic elements are the following: radiation and chemical reconnaissance instruments; gear controlling the actuating mechanisms for sealing and for the air filtration and ventilation system; the actuating mechanisms proper; ventilation valve and opening; and overpressure meter.

The firefighting equipment also operates automatically. It is intended for extinguishing fires inside the vehicle by filling the space around the center of ignition with a fire-extinguishing agent. Its set includes three two-liter cylinders with fire-extinguishing agent, lines, and nine temperature-sensitive elements. The equipment is controlled by gear of the system for protection against mass destruction weapons as well as from a special driver's panel.

The temperature-sensitive elements are situated in places with greatest fire danger in the tank fighting and engine compartments. They are devices which produce an electrical signal when there is a sharp temperature increase in the area where they are installed. The signal goes to the control gear and turns on electrical circuits of corresponding actuating mechanisms, as a result of which the pyrotechnic cartridge of the cylinder servicing the area where the fire originated is triggered. An engine shut-down mechanism also is turned on.

Multiple-use thermal smoke-generating equipment is installed on the T-72M for laying smoke screens. Diesel fuel from the engine fuel system is used as the smoke agent. It is possible to lay smoke screens only with the engine operating. The system consists of a solenoid-operated fuel supply valve, two fuel nozzles, and lines. It operates as follows. When the valve is turned on it opens and fuel goes from the fuel-feed pump to the nozzles, from where it enters the stream of exhaust gases in an atomized state. Here it vaporizes under the effect of high temperature and, mixing with the gases, forms a vapor-gas mixture. Since its temperature is considerably higher than that of outside air, on being ejected into the atmosphere and coming in contact with the air the fuel vapors condense and form a fog.

The underwater operation equipment consists of removable and fixed assemblies. Removable assemblies include a snorkel (a crawl-pipe [truba-laz] is used for training purposes), exhaust valves, and seals for the muzzle end of the gun and coaxial machinegun port. The snorkel is for supplying the crew and engine of a sealed vehicle with atmospheric air when moving underwater. It is mounted in a special opening of the gunner's hatch cover. At night a signal lantern with button switch for light communications with shore can be installed on it. For convenience of transporting it, the upper and middle pipe sections are inserted into the lower section and their flanges are connected with bolts and nuts. In that position it is fastened on brackets to the left rear of the turret.

Exhaust valves serve to protect the engine against water getting into it in case it stops under water. The assembly is a panel with four valves consisting of a collar, rubberized asbestos fabric gasket and a seat. Springs press the collars to the seats, and they are mounted on a shaft which ends in a lever for opening the valves. Seals of the muzzle end of the gun and the coaxial machinegun port are rubberized fabric covers.

Fixed assemblies of the underwater driving equipment include seals of armor protection of the gun and roof over the engine compartment, a pump, and an opening for transfer of water.

The tank also has entrenching equipment, which is a dozer blade mounted on the lower front armor plate. In addition to this, the set also includes four struts with guides and two clamps. The dozer blade is intended for cutting and moving the soil, the struts hold it in a working position, and guide bars ensure directed displacement of struts when the blade is rotated. The clamps serve to fasten the blade in a traveling position. Blade width is 2,140 mm. With this equipment the tank is capable of digging a caponier 10-12 m long and 4.5 m wide and with a depth differential from 1.2 to 5.5 m in 12-40 minutes depending on soil type. It takes 1-2 minutes to convert from a traveling to a work condition and 3-5 minutes to convert back.

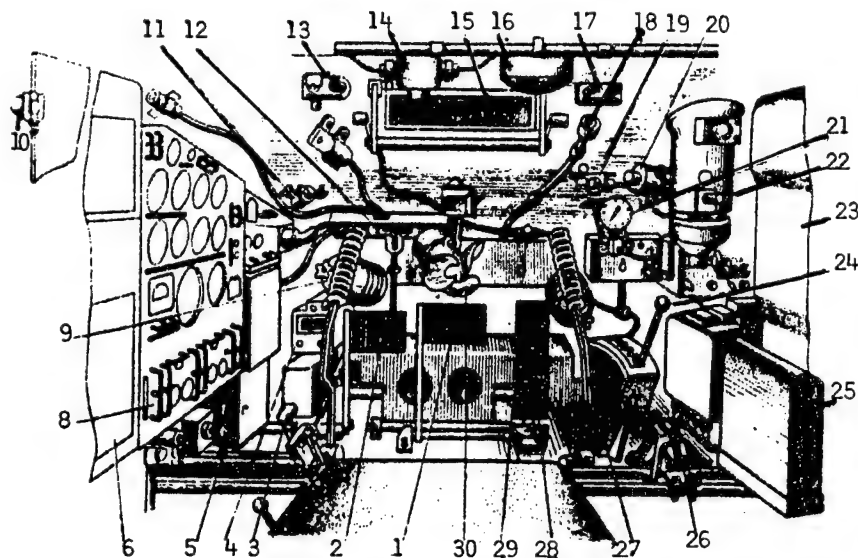
The tank negotiates a ditch up to 2.8 m wide and a vertical wall up to 0.85 m high. Underwater driving equipment permits crossing water obstacles up to 5 m deep and a water surface up to 1,000 m in size. Direction of underwater movement is maintained with the driver's gyroscopic course indicator (directional gyro). The telescopic snorkel of the tank underwater driving equipment is stowed in a case attached to the left rear turret wall. Boxes with sets of spare parts, tools and accessories are attached on the right and rear of the turret. There is the possibility of mounting two barrels of fuel to brackets on the rear of the hull; they are connected to a common system.

Licenses for producing the T-72 have been sold to Czechoslovakia, Yugoslavia and India. In addition, various modifications of the Soviet-made T-72 were exported to many countries.

The tank has been modernized repeatedly. A more powerful engine has been installed and the gun has been supplied with a thermal jacket.

Specifications	
Weight, tonnes	41
Length with gun, m	9.53
Length of hull, m	6.670
Width, m	3.46
Height, m	2.16 (up to roof of commander's cupola)
Clearance, m	0.43
Track width, mm	580
Ground pressure, kg/cm ²	0.83
Engine	V-46 574 kw (780 hp) 12-cylinder multifuel diesel
Unit power rating, kw/tonne (hp/tonne)	14 (19)
Maximum speed, km/hr	60
Average (T-72AK)	35-45 (soil)
	50 (highway)

Fig. 1. Driving compartment:

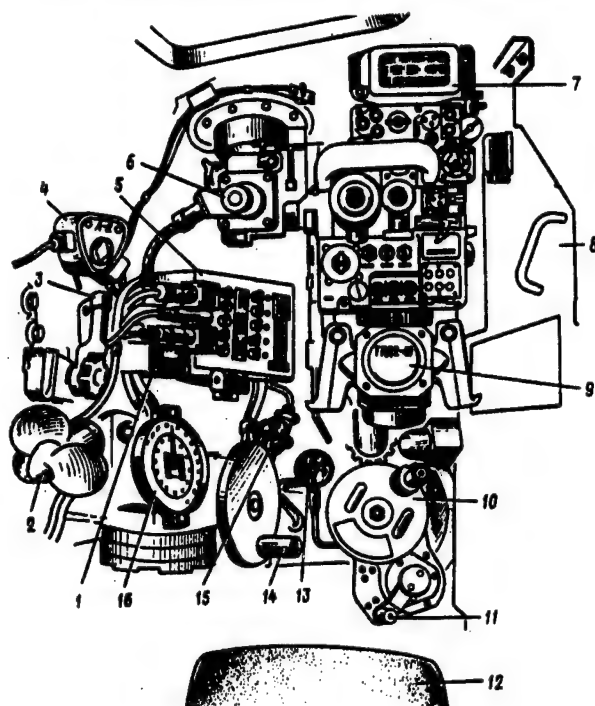


Key:

- | | |
|--|--|
| 1. Stopping brake pedal | 17. Signal lights for critical coolant temperature sensor and commander CALL |
| 2. Clutch pedal | 18. Filler neck of GPO [not further expanded] tank |
| 3. Driver's seat lock handle | 19. Signal light for gun being outside the hull dimensions |
| 4. Manual fuel feed drive handle | 20. Engine start system valve |
| 5. GPK-59 directional gyro | 21. Manometer |
| 6. Fuel distribution cock | 22. Driver's hatch cover handle |
| 7. AKB [lead acid storage battery] protective cover | 23. Rack-tank |
| 8. Driver's control devices panel | 24. Gear shift lever |
| 9. Compressed air cylinder | 25. TNPO-168V case |
| 10. Battery switch | 26. Louver drive handle |
| 11. Signal light for gun being outside the hull dimensions | 27. Control lever |
| 12. Stopping brake pedal latch handle | 28. Accelerator pedal |
| 13. Interlock device signal light | 29. GPO system cock |
| 14. A-3 tank intercom system set | 30. Blower |
| 15. TNPO-168 observation device | |
| 16. Roof light | |

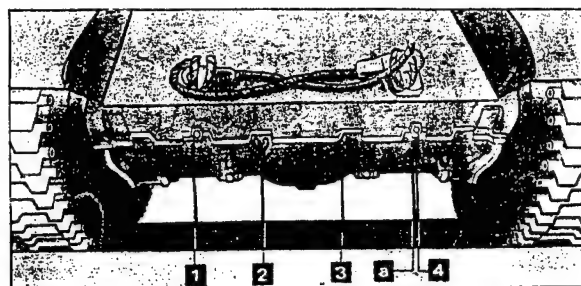
Specifications (Continued)	
Range, km	650; T-72AK: 320-480 (depending on conditions for moving over soil), 500 (highway)
Crew	3
Armament	D-81TM 125-mm smoothbore gun with automatic loader, coaxial 7.62-mm PKT machinegun, 12.7-mm NSVT general-purpose machinegun, 12 "902" smoke grenade launcher systems
Unit of fire	39 125-mm rounds; 300 12.7-mm and 2,000 7.62-mm cartridges

Fig. 2. Fighting compartment (gunner's station):



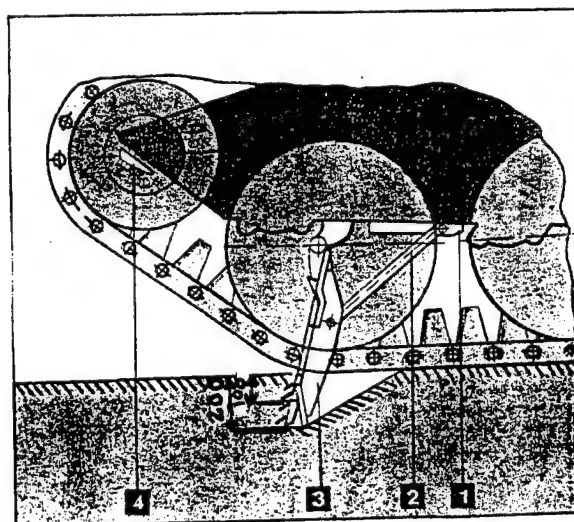
Key:

1. Indicator
2. Fan
3. Turret lock
4. A-2 tank intercom system set
5. Left distribution panel
6. TPN-1 night sight
7. TNP-160 observation device
8. Gun enclosure
9. TPD-2-49 sight-rangefinder
10. Gun elevating mechanism
11. Worm gear disengagement handle
12. Seat
13. Manometer
14. Manual turret traverse mechanism
15. GPO system valve
16. Traverse indicator



Key:

1. Bolt
2. Shackle
3. Blade
4. Clamp
- a. Opening



Key:

1. Guide
2. Strut
3. Blade
4. Clamp

Division of Armor, Artillery Among Republics

93UM0315A Moscow ROSSIYSKIYE VESTI

in Russian 21 Dec 92 p 2

[Article by ROSSIYSKIYE VESTI Correspondent Sergey Ovsiyenko: "How They Divided the Military Equipment and Weaponry"]

[Text]

	Azerbaijan	Armenia	Belarus	Moldova	Georgia	Russia (in the area of employment)	Ukraine
Combat tanks	no more than 220	no more than 220	no more than 1,800	no more than 210	no more than 220	no more than 6,400	no more than 4,080
Including in regular units	no more than 220	no more than 220	no more than 1,525	no more than 210	no more than 220	no more than 4,975	no more than 3,130
Armored combat vehicles	no more than 220	no more than 220	no more than 2,600	no more than 210	no more than 220	no more than 11,480	no more than 5,050
Including in regular units	no more than 220	no more than 220	no more than 2,175	no more than 210	no more than 220	no more than 10,525	no more than 4,350
Of them BMP's [Armored Personnel Vehicles] and combat vehicles with heavy weapons	no more than 135	no more than 135	no more than 1,590	no more than 130	no more than 135	no more than 7,030	no more than 3,095
Including combat vehicles with heavy weapons	no more than 11	no more than 11	no more than 130	no more than 10	no more than 11	no more than 574	no more than 253
Artillery	no more than 285	no more than 285	no more than 1,615	no more than 250	no more than 285	no more than 6,415	no more than 4,040
Including in regular units	no more than 285	no more than 285	no more than 1,375	no more than 250	no more than 285	no more than 5,105	no more than 3,240
Combat aircraft	no more than 100	no more than 100	no more than 260	no more than 50	no more than 100	no more than 3,450	no more than 1,090
Strike helicopters	no more than 50	no more than 50	no more than 80	no more than 50	no more than 50	no more than 890	no more than 330

The division of the inheritance of the former USSR is also not proceeding smoothly in the military sphere. Experience is demonstrating that the principle of "to everyone in equal measure" (I have in mind the former union republics) to which the leaders of the CIS member-countries military departments arrived in May 1992 in Tashkent has currently begun to suit few people. There have been increased cases of the seizure of military vehicles and equipment of Russian Army units deployed on the territory of the former union republics. You don't have to go far for an example: military depots in Tbilisi and Akhaltsikhe have been seized in that same Georgia. Indeed, the depots have been returned to Transcaucasus Military District but the vehicles and equipment have not: according to district command authorities' data, equipment worth more than one billion rubles has been stolen in the Georgian capital alone.

In its turn, the Georgian side has accused the Russian Ministry of Defense of "arms deliveries to Abkhaziya". Russian defense department officials categorically reject such accusations: the army is not transferring arms to either the one or the other side. Russian Federation Deputy Minister of Defense Colonel-General G. Kondratyev has made that statement more precise: 108 tanks

which, in his words, are being used to murder peaceful residents, have already been transferred to Georgia in accordance with the Tashkent Agreement.

There is a similar situation in Moldova: its leaders accuse Russia of the transfer of 14th Army arms to the "unconstitutional troops in Tiraspol". While responding to these accusations, General Kondratyev said that they are all conjecture.

Today we are publishing certain excerpts from the "Protocol on Maximum Levels for the Presence of Arms and Equipment" of the seven former republics of the USSR. These levels take into account the already existing agreements on conventional armed forces in Europe.

Separate protocols exist on the arms and military vehicles of the MVD [Ministry of Internal Affairs], coastal defense, and naval infantry troops. The published table does not take into account the Baltic countries from which the troop withdrawals have begun.

The CIS Unified Armed Forces Press Service provided informational material to the editorial staff.

CIS: AIR, AIR DEFENSE FORCES

Air Defense Point of View on Reform

93UM0300A Moscow VESTNIK
PROTIVOVOZDUSHNOY OBORONY in Russian
No 10, 92 (signed to press 12 Oct 92) pp 9-12

[Article by Col (Res) I. Yerokhin, doctor of military sciences and professor: "Reform! Reform? Reform..."]

[Text] At one time in the collapsed Soviet Union, work on military reform of the Soviet Armed Forces was being conducted or at least simulated. The need for it has been felt for many years now and, in addition to internal needs, was spurred on by our unhappy lessons of local wars, other than, perhaps, the North Vietnam War. A special Committee for Military Reform was formed under the State Council of the USSR.

Work here was conducted in the manner traditional for us: reports were given and decisions made at military-scientific conferences, articles were published in the military press, and at the same time drafts of official documents and even edicts of the President of the USSR were brought forth by a narrow circle of officials without the direct or indirect participation of collectives of military scientists.

The very meager information about this work and also the official publications of its individual results sowed doubts as to their feasibility and simply their logic. The events of late are causing a need to reexamine in general all that has been done and has been planned, for the question of "how to conduct military reform" of the Soviet Armed Forces has become a question of "what to do next" or "what is to be done" with them in general?

All this prompts me, based on 36 years of experience in scientific research in the field of aerospace security of the state, to share my ideas about how best to act in the still-unclear situation. The views being outlined here concern the methodological aspects of the problem, the overall approach to solving it, and certain conceptual points.

With what and how should we begin the new work?

A starting premise for any military reform should be an understanding that reforming of the armed forces is not an independent and isolated measure, but is a most important, as well as a component part of military reform in the state. It can be conducted in earnest only based on official doctrinal tenets stemming from the state concept of safeguarding national security.

Without this it is impossible to substantiate either the directions of further organizational development of the armed forces or the content of reforming them.

Thus, until the make-up and character of the state has been determined, the overall concept of safeguarding its national security and its component—the concept of safeguarding military security—has been formulated, the military doctrine based on it has been developed and officially approved, and its corresponding directions of organizational development of the armed forces have been

planned, there is no real basis for conducting military reform. However, to decrease the burden of overall military spending, including spending for the pending reform itself, it seems advisable and for the time being sufficient to implement the following now.

We must balance the various components of the armed forces not with the medium, sphere, or element of their employment (land, water, air, space), but with their functions in armed conflict and in war as a whole. In this regard, it is advisable to preface the organizational structure with the elaboration of the functional structure of the armed forces.

A functional structure containing three types (or three groups) of forces and fires (not to be confused with branches of the armed forces) and three levels (degrees) of their deployment.

1. Combat-ready strike forces of deterrence and retaliation (vengeance). They include the Strategic Missile Troops, the missile-carrying navy, and long-range aviation. During peacetime they should be fully deployed, and a necessary portion of them (according to the situation) should be in constant readiness to carry out the threat of retaliatory destruction of aggressors, accomplishing the task of retaliation for an attack made or of preventing it.

2. The combat-ready portion of defensive assets for repelling the start of aggression from the air (aerospace). It includes forces and fires of the Air Defense Troops, air defense troops of the Ground Forces, fighter aviation of the Air Force, and fleet air defenses. During peacetime, they are maintained in a battleworthy state and at a readiness for functioning of the state's aerospace security system. The necessary portion of these forces (according to the situation) are deployed, combat-ready, and on alert, accomplishing two groups of tasks: peacetime—support of air traffic according to established rules; and wartime—heading off aggressive actions and beginning to repel an air attack.

3. The regular general-purpose forces of all branches of the armed forces, other than the Strategic Missile Troops, for conducting full-scale combat operations in all media (spheres, elements) to fully repel military attacks. During peacetime and up to the beginning of a surprise attack or the emergence of a direct threat of one, they are maintained according to peacetime levels in numbers and strength levels sufficient to ensure mobilization and strategic deployment of all the armed forces.

During the course of full-scale military reform, the organizational structure of the armed forces should be developed based on a functional structure, but taking into account all other political, economic, and military factors and circumstances.

The functional structure seems comparatively more stable and unchanging. The composition of forces and fires, general and especially combat-ready, is more dynamic. It can and should change in keeping with the situation, but

with mandatory retention of all those structures which will ensure their complete and timely increase to meet military needs.

Today this is seen as the best opportunity to safely decrease the burden of military spending and reduce troop strength. We must not only quote but also follow the precept of A.V. Suvorov to learn to make war not with numbers but with ability, or to put it in today's terms, professionally.

It is impossible to understand much from the available information about the edict of the President of the USSR on the "new appearance of the armed forces," in particular: What branches of the armed forces will there still be; what will they include; where will we place the air defense forces and assets located throughout the territory of the state and practically independently defending all types of installations against airstrikes?

It is impossible to understand why we should create such a machine from the individual types of various strategic strike and individual types of various defensive forces for combating air and space means of attack belonging to the four branches of the armed forces (Strategic Missile Troops, Air Defense Troops, Air Force, and Navy), destroying in so doing the two distinct and unified systems that already exist: the strike system—for actions against enemy territory, including against basing and the entire structure of air and space attack forces; the defensive system—for combating air and space attack weapons in flight.

The various forces and weapons combined into the Strategic Deterrence Forces [SSS] are located in isolated groupings situated throughout the territory of the country without a common concept of operations, for which there has not been and will not be a need. They will have to carry out their very diverse missions against various components of the structure of aggressors and in the most varied regions of the world, and also in and from space, operating in various (practically all) media (spheres, elements). Something originally from the Ground Forces (a branch of the armed forces not participating in these matters) has been charged with commanding them, a most important difference of which is the conduct of combat operations on a completely different scale of space and time. Of course, this will impede and disrupt command and control.

Without disclosing the entire military specifics, creation of the SDF can be called an unnatural hybrid.

In addition to this, there is still much that is impossible to understand in the logic of the edict if you analyze it professionally.

It would be good from the defense, economic, and also the moral-ethical points of view to repeal this edict as a second real step in military reform, and for its authors henceforth not to discredit either their high posts or their personalities. Instead of this, it is necessary, relying on collective reason and military science, to reinterpret and select what

specifically for military reform now in the present situation is absolutely clear and topical, and what must not be hurried and can wait so as not to redo it later.

In determining an expedient organizational structure of the armed forces being reformed, I think it is useful to borrow the American ideal of a dual organization with the creation of operational and administrative levels (commands).

Assuming the preservation of unified armed forces of the entire group of uniting republics (states) or their breakup by individual republics, (states) with or without the creation of Joint Armed Forces, one can single out their stable part (the same for all these cases) and the probable differences.

It is mandatory that the components of the armed forces having strategic importance be interrepublic (interstate) or joint components.

These are the strike forces and strategic weapons. They include the strategic nuclear triad (the Strategic Missile Troops, the missile-carrying fleet, and Long-Range Aviation) and nonnuclear air and naval forces for hitting strategic objectives on the territories of aggressors in nonnuclear military conflicts, and also defensive forces and strategic weapons. They include the Air Defense Troops, air defense troops of the Ground Forces, Air Force fighter aviation, and air defense forces of the fleets.

Without claiming absolute competence, but only for reconstructing the whole picture of the overall structure of the armed forces, two more components are proposed that are not connected by combat just with an air and space enemy and included in either unified, joint, or regional (republic) armed forces.

Forces and weapons of ground security and defense of territory of a group of or individual republics (states). They consist of ground border troops and the Ground Forces.

Forces and weapons of maritime security and defense of territory of a group of or individual republics (states). They include maritime border troops and the Navy.

Deterrence and retaliation strike forces [USSV] are an operational-strategic formation of troop groupings of the three branches of the armed forces (Strategic Missile Troops, Navy, Air Force) intended to accomplish the following missions:

- deter possible aggressors from unleashing a nuclear war by the threat of a retaliatory strike against them;
- retaliation (vengeance) for nuclear aggression by carrying out this threat;
- destroying aggressors' strategic installations with nonnuclear (conventional) weapons in a nonnuclear war or in its nonnuclear beginning.

By function, the USSV are an operational-strategic command. The command is headed by a commander in chief and the Main Staff, which accomplish and are responsible for planning USSV operations, developing teamwork and coordination, and effectively using the strategic forces and

assets subordinate to them of the three branches of the armed forces: Strategic Missile Troops, Navy, and Air Force. These branches of the armed forces may be retained as administrative echelons headed by the commanders (of the Strategic Missile Troops, Navy, and Air Force), with their command and control bodies, and responsible only for overseeing the daily activities and support of these forces and assets during peacetime and during the course of military operations. The latter will be conducted under the overall leadership of the commander in chief of the USSV and commanders of the operational formations of the Strategic Missile Troops, Navy, and Air Force (an analogy with the operations of fronts, air armies, and fleets under the leadership of the commanders in chief of the armed forces in the theaters of military operations or the Supreme High Command).

Functionally, one can single out as part of the USSV strategic nuclear forces [SYaS], which include the Strategic Missile Troops, missile platforms of the Navy and Long-Range Aviation, and strategic strike forces [SUS], which include nonnuclear strike aviation of the Air Force and strike forces of the Navy. But they should not be independent and organizationally official echelons in the organizational structure of the USSV. In developing the authorized structure, one can examine and single out two deputy commanders in chief of the USSV for these groups of forces.

The aerospace defense forces form a unified system of aerospace defense of the entire group of republics (states) that have joined together and is intended to accomplish the following tasks:

- in peacetime—to support flights according to established rules by monitoring and regulating in its airspace all movements of aircraft, regardless of their state or departmental affiliation and functional purpose; in outer space—to track its own and foreign spacecraft;
- in the event of a threat of war—to put a stop to provocative and aggressive acts in the air, in space, and from space during the threatening period or on the eve of an attack;
- in the event of aggression—to execute an organized beginning of repelling the aggression by effective engagement and electronic countermeasures against air and space attack weapons in flight (on routes, on trajectories, in orbits) in the interests of defending all types of installations and groupings of the armed forces.

In unified or joint armed forces, the aerospace defense system should be created on the basis of the general air defense troops of the entire group of combined republics (states) with operational subordination of air defense forces and assets of the Ground Force (front and army systems) and also air defense forces and assets of the fleets at bases during peacetime to formations or large units of these air defense troops (according to local conditions).

In regional (republic) armed forces, their operational subordination can be accomplished only for wartime (from the start of the threatening period or surprise air invasion). In so doing:

- in cases of aggression against the entire group of combined republics (states), the air defense forces and assets of the regional (republic) armed forces are subordinate to formations or large units of general air defense troops;
- if aggression against one republic (state) and its independent struggle against the aggressor are possible, the forces and assets of the general air defense troops located on its territory, depending on the situation and the decisions of the leadership, may be attached to the regional (republic) armed forces of this republic (state).

Aerospace defense forces combine the functions of operational-strategic and administrative commands. They are headed by a commander in chief and Main Staff.

Ground Security and Defense Forces. They are intended for guarding land borders during peacetime and defense of territories in the event of aggression. Organizationally, they have two structures: peacetime—in the form of military districts; wartime—in the form of groupings of armed forces in a theater of military operations, fronts, and military districts of wartime.

Maritime Security and Defense Forces. They are intended for guarding maritime borders and territorial waters during peacetime and for defending coastal areas in the event of aggression. They have the same structure during both peacetime and wartime: in the form of fleets, which are both operational-strategic and administrative commands.

With reference to the air defense system, its expedient structure should be chosen taking into account such circumstances as the size of the space needed by air defense large units and formations to organize combat by all air defense assets, particularly air assets.

At one time it was illogical to create the air defense system structure of the Warsaw Pact member-states based only on state borders and not guided by the requirements of convenience of organizing combat against air and space attack weapons. The "unified air defense system of the Warsaw Pact countries" was actually the sum total of the separate national air defense systems, which impeded command and control and particularly coordination of their forces and assets, and in the final analysis decreased their already insufficient overall effectiveness. This must be taken into consideration when dividing the present armed forces.

The euphoria from sovereignties and the hope for independence give rise to such illogical intentions to structurally divide the unified air defense (aerospace defense) system of the former USSR into republic (national) zones just in the name of "sovereignty," thus making it more difficult to organize combat against air attack weapons.

And this is in spite of the stable existence of NATO truly unified air defense system, whose organizational structure from the very beginning was not tied to national boundaries, but was determined primarily on the ease of organizing combat against an air enemy and command and control of air defense forces and assets. Thanks to this, it ensures its higher effectiveness.

If we cannot be creative, then we must at least copy the good things that others are doing.

Now about the effect of joint use of various air defense forces and assets. In the Air Defense Troops, with joint use of various kinds and types of forces and assets, their overall effectiveness and also their overall combat capabilities increase substantially and become great. This is ensured by skilled mutual compensation for the shortcomings and weak points of some by the advantages and strong points of other forces and assets.

Therefore, destroying the aerospace defense system by distributing the air defense components to various organizational structures also decreases the already insufficient reliability of air defense.

These are a few of the views of armed forces reform which the collectives of military scientists of all specialties should link up with directly. Only this will make it possible to arrive at the most feasible project, and not just another impractical scheme of military reform.

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Defense Against Ballistic Missiles: Battery Location

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[Article by F. Konstantinov: "Missile Against Missile"]

[Text] Today's arsenal of offensive air weapons is extremely diverse. When accomplishing air defense missions, surface-to-air missile [SAM] systems have to oppose all classes of air targets, including cruise missiles, and also, as the Persian Gulf War showed, operational-tactical missiles.

Let us examine the confrontation between SAMs and targets like operational-tactical missiles and antiradiation missiles in the Iraqi theater of military operations.

To protect an installation against an airstrike, it is necessary to make the SAM close with the air target (target intercept) with the required accuracy. When it has closed, the SAM's warhead detonates in the vicinity of the impact point and inflicts enough damage on the target to preclude it from carrying out its combat mission (destroying the defended installation).

A ballistic missile's trajectory consists of an boost (approximately 10-15 percent of the total flight path) and postboost phases. In the postboost phase, the missile flies with the engine off under its own momentum over the so-called ballistic curve like a freely thrown body. The vertex (highest point) of a operational-tactical missile's trajectory is considerably higher than maximum height of a SAM. Consequently, the intercept of such targets can take place at the target of the strike on the descending phase of their trajectories.

The most important characteristic of the combat capabilities SAM systems is the SAM envelope, that is, the space

around the SAM system within which intercept and destruction of the target being shot at is ensured with a specified probability. The concept of SAM defense zone is introduced when accomplishing the mission of protecting an installation against a strike by ballistic missiles. This means the geometric location of the impact points of ballistic missiles whose trajectories pass through the SAM envelope. The location of the boundaries and the shape of the SAM defense zone are determined by the spatial characteristics of its envelope and the direction of flight and angles of fall of aeroballistic targets.

The flight range of ballistic missiles depends on the initial velocity and angle of launch of the missile, as well as the altitude at which the engine is shut off (stops). With a change in the angle of launch of a missile (the angle between the missile's velocity vector and the horizon), the angle of fall also changes. Therefore, the defense zone of a SAM system should be evaluated for a wide range of fall angles of ballistic and especially aeroballistic targets. Its distant boundary is defined as the minimum and its near boundary as the maximum fall angles of ballistic missiles.

Obviously, an intercept of a ballistic target attacking an installation is realized only if on a given line the SAM defense zone covers the installation being defended, as well by the location of SAM sites relative to the boundaries of the installation and possible aiming points of ballistic missiles.

This condition determines only the possibility of intercepting a ballistic missile, but to protect an installation against its strike it is also necessary to accomplish the more complex task of firing—reliable destruction of a target flying over a ballistic trajectory.

With reference to ballistic missiles carrying a nuclear warhead, it is customary to distinguish three types of target destruction (this also applies to missiles with conventional warheads):

A_{00} —detonation of a ballistic missile's warhead at the moment of impact with a SAM and subsequently, i.e., upon falling to the ground (warhead neutralization), is ruled out;

A_0 —detonation of a ballistic missile's warhead is possible at the moment of impact with a SAM, but is ruled out subsequently;

A —the target's structure is destroyed, the ballistic missile is knocked off the trajectory, but detonation of its warhead upon impact with the ground is not ruled out.

The first two types of destruction of a ballistic missile with a conventional warhead are not realized in the Patriot SAM system and other modern systems. Consequently, destruction of a target of this type by a SAM should be understood as destruction of the structure of the ballistic missile, in which an error in its fall relative to the aiming point (the object of the defense as a whole) ensures by its magnitude ensures survival of the point object even if the ballistic missile's warhead detonates. A ballistic missile's deviation from the point of impact from the ground target (defended installation) occurs primarily due to a decrease

in the ballistic missile's flight range after impact with the SAM. Lateral shifts of the impact point are also possible. The magnitude of these deviations, given the same damage effect of the SAM, substantially depends on the distance to the ballistic missile intercept point, the altitude of impact, and also the ballistic missile's angle of fall. The greater the ballistic missile's range of fire, the greater the deviation of the point of impact may be.

The space-based IMEWS-2 early-warning system, whose main purpose was to detect ballistic missile launches, was used to support the combat work of the Patriot SAM system against Scuds in the Persian Gulf zone. Signals about the fact and coordinates of a Scud launch were fed from satellites in orbit to the NORAD Air Defense Command Post (Colorado), relayed to Saudi Arabia to the U.S. Central Command Command Post, and relayed further in the form of special commands to Patriot command and control facilities.

The experience of transmitting target information from the spacecraft directly to command posts of air defense batteries on a real-time basis, in our opinion, is unique. The time available to the sites increased from 1-1.5 to 5 or more minutes, and timely intercept of the operational-tactical ballistic missiles in flight was ensured. In addition, the availability of information about the launch of a ballistic missile precluded the need to keep the SAM sites at constant readiness to launch missiles.

It should be noted that attempts to use the E-3A AWACS system for an antiballistic missile [ABM] defense proved not to be very effective due to the insufficient detection range of the Scud in flight.

Scud firings were accomplished at ranges up to 40 km and at altitudes up to 24 km. The target detection range of the system's multifunctional radar was up to 120-150 km.

The required aerodynamic target (airplane, cruise missile, helicopter) kill probability in complex conditions is achieved, as a rule, by increasing the expenditure of missiles when firing against it. Modern SAM systems, including both multichannel systems and the Patriot missile, do not bring about the appearance of fire.

That means it is possible only to fire a series of missiles with minimum intervals of about 5 seconds. The velocity of a Scud operational-tactical ballistic missile "in the vicinity of the first impact with a SAM is 700-900 meters per second, the second impact takes place with a displacement of 3.5-4 km along the trajectory, and so forth. The range of firing and, consequently, the effect of the SAM airbursts on the deviation of the ballistic missile's point of impact decrease quickly. Consequently, an increased expenditure of SAMs to destroy an operational-tactical ballistic missile with a conventional warhead may prove to be not only inadvisable under the "cost-effectiveness" indicator, but also virtually difficult to accomplish when repelling group strikes (a concentration of batteries will be required).

Protection of a point installation is ensured if the deviation of the ballistic missile's point of impact from the

boundaries of the installation exceeds the effective operating radius of the missile's warhead. Therefore, Patriot-type SAM systems can provide with a certain degree of reliability an ABM defense only for point installations. To sharply increase the effectiveness of such systems, including when defending area installations, it is necessary to solve the problem of destroying type A₀ targets flying over ballistic trajectories.

The confrontation between the Patriot SAM system and Scud operational-tactical ballistic missiles took place in very simple conditions: intercept of single missiles (one or two firings a day), the lack of any countermeasures aboard the ballistic missiles against the SAM systems, and total electronic warfare supremacy. You see, in missiles of this type, if separation of the warhead were to occur at the end of the boost phase of trajectory, the task of intercepting and destroying the target would become much more complicated. So, use of the Patriot SAM system against the Scud missiles does not at all mean that the problem of operational-tactical ABM defense has been solved. In essence, there was no real confrontation.

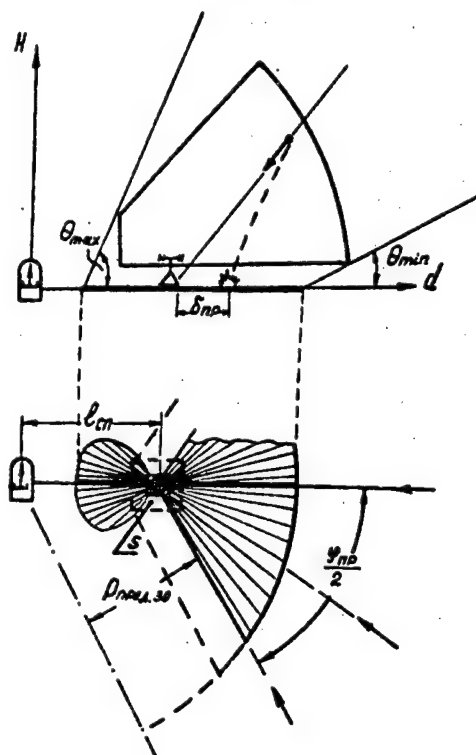
The Patriot surface-to-air missile system is a general-purpose system from the standpoint of the possibility of using it for firing against aerodynamic and ballistic targets and systems. There is no experience of using it during the combat operations in the Persian Gulf to accomplish simultaneously air (repelling strikes by aviation and cruise missiles) and ABM (intercept and destruction of operational-tactical ballistic missiles) defense.

The costs of one launch of an operational-tactical ballistic missile and one SAM against a target are commensurable. There are always more installations to cover and air defense and ABM missions in a theater of military operations than there are capabilities. In these conditions, when waging war using conventional weapons, is the principle of "missile against missile" acceptable in general for creating a reliable ABM defense of installations and troops in the theater of military operations according to the "cost-effectiveness" criterion? For the time being, in our view, it seems quite burdensome for the economy, being able to be used on the basis of the general-purpose nature of the SAM system only for accomplishing individual missions of an operational-tactical ABM defense. The experience of the Persian Gulf War also indicates this.

The task of shooting down antiradiation missiles [ARMs] in the postboost phase of the trajectory is quite relevant.

To accomplish this task, it is necessary to place the short-range SAM systems that the installation is within its zone of defense (see figure), fire on the target at the greatest possible range, and destroy it. Destruction of an ARM means termination of its controlled flight and deviation (δ pr) of the trajectory of free fall in the atmosphere by a value exceeding the radius of effective action against the installation (S is the given area of the installation). Obviously, the greater the ARM's angle of dive, the greater the required distance for shooting it down, that is, the distance of the mission accomplishment zone from the installation.

Placement of a SAM System in an Installation's Defense Zone



The size of the sector of cover (ψ pr) is determined by the condition of the installation's location in the defense zone with an increase in the course profile of target motion and a corresponding turn when firing a sectorless plane of the system's kill zone.

Today, we are seeing in the development of offensive air weapons and their tactics an increasingly distinct shift to massed use of unmanned vehicles and high-precision weapons. Guided missiles, as an element of the offensive air weapons, are an integral component part of the configuration of every enemy airstrike against installations and troops defended by surface-to-air missile troops. Therefore, examining the capabilities and distinctive features of combating a qualitatively new class of air targets is not only of cognitive interests, but also has practical relevance.

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'From Departmental to Unified Air Defense System'

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No 10, 92 (signed to press 12 Oct 92) pp 17-18

[Article by Colonel V. Gamov: "An Umbrella Cannot Be Divided into Parts, or How We Should Move from a Departmental to a Unified Air Defense System"]

[Text] Now, during the period of reducing the Army and Navy, a problem has become clear: How to use the remaining forces most effectively?

One of the directions is to create a unified air defense system, which includes air defense of the Ground Forces, Navy, and so forth. This is nothing new. However, it was not implemented on the operational and tactical levels.

Unfortunately, the departmental approach to organizing air defense still prevails today, from development of weapon systems and to combat training.

Each department structures its own air defense guided by its own interests. At the same time, no one denies the advisability of building a unified system. In other words, people understand that it is better to have an umbrella that is intact, but everyone still tries to have its own part of it.

True, there are different views regarding the organization of command and control of combat operations of air defense groupings. Some believe that the one in whose interests the combat operations are being conducted should be the one to control them; others believe that this is the right of the one who has control of the situation taking shape in the area of combat operations; and still others believe that the combined-arms commander should control combined air defense forces in the areas adjacent to the border (front) and the commander of the air defense formation in the depth of the country's territory.

There is some logic in these assertions. But in solving problems, it is important to understand that at certain stages of an armed conflict air defense is an element of an antiair operation as a whole. Repelling massive strikes by strategic offensive weapons (TVD) goes beyond the framework combat support of troop operations in a theater of military operations and should be accomplished by the joint efforts of all units able to participate in carrying out this mission.

In other words, it is necessary to have a coordinated structure of unified groupings of air defense surface-to-air-missile [SAM] troops and air defense forces of the Ground Forces and the Navy. What is its essence?

A system created during peacetime by formations of the Air Defense Troops and the front, including air defense of the Ground Forces, could serve as the basis for forming them. However, military experience of recent years shows that combat operations, including massive strikes by aviation forces, are most likely when the opposing sides are concluding deployment of their large strategic formations and formations at established lines.

Large masses of first-echelon troops and equipment will be concentrated in the tactical defense zone of the front. It is advisable to bring surface-to-air missile groupings of air defense formations having slow-moving SAMs in its inventory beyond the tactical and operational zone of defense of first-echelon strategic formations. Otherwise, they will be destroyed quickly.

Mobile air defense SAM subunits and units having highly maneuverable SAM systems in their inventory, which

would enable them to organize air defense engagements jointly with other troops, should be used to cover installations in the areas near the borders.

The defense of second-echelon installations and reserves can be assigned to air defense SAM units and formations with slow-moving SAMs deployed in the operational defense zone.

All this will make it possible to create reliable cover, staggered in height and depth, by unified groupings of air defense SAMs and air defense forces of the Ground Forces that can be controlled in the automated control system.

The Ground Forces air defense will ensure a mobile defense that makes it possible to accomplish screening of units and formations in a defense, counteroffensive, and offensive.

Thus, the essence of a unified mobile surface-to-air missile defense is ensuring a preponderance of forces on the lines of attack of the airborne enemy and inflicting such damage on him that will force him to abandon further combat missions.

The basis of the defense of the groupings and installations being covered will be mobile SAM systems and air defenses of the Ground Forces and Navy, united by a single plan and concept.

At the same time, it would be premature to abandon the position defense. In the operational zone of defense of the front and in the depth of the country's territory, it is possible to combine a position and mobile defense. In it, mobile subunits create balances of forces in their favor and conduct deceptive operations.

The maneuvering operations of the air defense grouping assume a great number of variants of aligning their combat formations. The commander makes the decision based on the enemy's variant of operations, the degree of importance of the installations and troops being covered, and the conditions of conducting combat operations.

The following are needed to create a unified SAM defense: a unified view of the principles of combat employment, unified methods for aligning combat formations, a unified approach to assessing the effectiveness of combat operations to repel enemy airstrikes; for planning, organizing, and command and control of combat operations; for drawing up normative documents for combat employment of the Air Defense Troops.

Today, fixed and slow-moving objects are covered by air defenses; that is why a SAM defense is created as a point, zone, or line groupings or a combination of them. The Ground Forces air defense, as a rule, has a linear combat formation, corresponding to the disposition of the lines (zones) of defense of the front or army. The combat dispositions of troops in a unified SAM defense can be any form as long as it takes into account the nature of enemy operations, the combat training conditions, the availability of assets, and so forth. The effectiveness of combat operations should be the determining indicator here.

Finally, combat training in these structures should be accomplished purposefully as it applies to conducting combat operations in the theater of military operations together with other training tasks. For example, it is advisable to conduct tactical exercises in the Air Defense Troops in joint groupings. Training combat operations of combined-arms and tank large strategic formations (formations) can serve as the background for these exercises.

It is possible to train specialists of the Air Defense Troops of various elements and levels at training centers, military schools, and air defense academy for all branches of the armed forces.

Thus, in conditions of limiting forces and arms, sufficiency and reliability of air defense can be achieved by its complete integration.

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Concern Over Decline of Military Transport Aviation

93UM0330A Moscow DEN in Russian No 50 (78),
13-19 Dec 92 p 4

[Article by Vladislav Shurygin under the rubric "Defense Awareness": "An Ordinary Rout"]

[Text] We live under occupation. We lost the war. We lost the homeland. Everywhere are signs of decline and gloom. Just as Germany paid in 1945 for the horrors of five years of war, we are paying in the same way today—not for war and aggression, not for millions of lives lost, but for daring to be first, for succeeding in becoming the most powerful, for succeeding in forcing those who had "called the tune" on this planet for centuries to take us into account.

One sign of occupation is the breakdown of the military, the internment and ritualistic burning of captured banners, the trampling underfoot of our orders and sacred objects, the covering of the graves of our generals with filth and dancing on them.

But Yeltsin has announced the creation of a new army for Russia, a powerful, mobile and professional army. Out of fear of a tempest at the congress, he swears loyalty to the army. Just like Gorbachev, he promises an apartment for every officer who has served more than 10 years, even though he understands the naivete of such promises.

The reality of today's army is not consistent with the high-sounding words of the supreme high command, however. It is something else. It is the vegetation of a routed military.

"Mobile and powerful...." But how is Mr. Yeltsin actually seeing to the mobility and strength of the army?

Just what is the VTA [Military Transport Aviation]? It is the "legs" of any army. Without it the Americans would have been unable even to lift a finger against Saddam Husayn, and they would not have been seen in Vietnam, Laos or Korea. The history of all wars of the past half-century is one of operations by the military transport aviation.

Just recently there was an intense struggle in the world to possess the most powerful, the largest, the most long-range and economical airship. The Hercules and Galaxy contended with the Ruslan and Antey. The world just recently saw the Mriya. Now it sees nothing. The race ended. The design offices, cut off from their steel, engines, equipment and fuel, and from ideas, are switching to divers small transports for hauling irons and bottles of alcohol for barter....

The VTA is no longer. The partitioning—more accurately, the theft—of the once-powerful troop arm is being completed.

Almost half of its pool of modern aircraft has been turned over to Mr. Yeltsin's esteemed colleagues. Two Il-76 divisions were gobbled up by Mr. Kravchuk, and one division of these aircraft was "grabbed" by Shushkevich. Yeltsin is left with only three divisions and a few motley regiments in which AN-12s, whose production, as we know, was recommended by Comrade Stalin himself, still fly.

Col Gen Avn Yefanov is left with only slightly more than half of what he once managed. It would seem that this is the very time to save what is left, to protect the troop arm and assign it priority. A mobile Russian Army cannot be created without a powerful and dynamic VTA, after all. Unfortunately, however, everything is proceeding differently in reality.

It is the fall of this year.... The Baltic region.... The 18th Guards Air Transport Division, one of the few remaining, complete VTA divisions of Yeltsin's Russia.... It is equipped with the IL-76, which has earned a good reputation. It has an enormous amount of experience acquired in supporting the troops in Afghanistan. It performed a number of special missions. Today the division is practically paralyzed and going out of existence.

The fact is that as of August 1991 it has been an occupation formation on the territory of the great, separatist Lithuania, and this means that it must be tossed out. This was affirmed by the Main VTA Staff, which ordered the division to be transferred to Russia in encoded telegram No. 123/3/0942 of 29 August 1992. The telegram also specified the final deadline for its withdrawal: 30 November of this year.

All of this can be tolerated. The present military personnel have learned to live with both the humiliating boots in the behind and the arbitrary behavior of the president and his ministers. The problem, as it turned out, was that there was simply nowhere to take the division.

The trains hauling the regiment from Kedainiai, for example, are scheduled to go to the city of Shadrinsk in Kurgan Oblast, where literally neither hearth nor home has been readied for the regiment or the support units. The trains are to be unloaded right onto the steppe. In view of the temperatures, which drop to 30 degrees below zero, and the total lack of any sort of depot facilities, not to mention barracks or apartments, one can imagine how this move will end.

In addition to this, for more than a year now Lithuania has forbidden Russia to replace discharged first-term servicemen and thrown all groups of draftees off the trains. As a result there are only a few hundred first-term personnel left in the entire division.

The guard in the regiments has not been replaced in several months now! The sentries are sometimes permitted to go to the bathhouse, to be sure, but even this will soon be canceled. After the next group is discharged, there will remain no more than a dozen and a half soldiers in the security companies. The flight lines are not guarded at all. The IIs are simply locked, about as secure as the sadly renowned Zhigulevsk aircraft were. Everywhere in the division thievery has assumed astronomical proportions. People with the know-how remove the alkaline batteries, instruments, clocks and other parts from the unguarded aircraft. Everywhere, almost all of the copper and other nonferrous metals—from the cables of the radio support battalion to the knobs and faucets in the washrooms—has been stolen and sold.

These are just the petty thefts, however. At one Kedainiai garrison five motor vehicles ranging from the regimental commander's Uazik to a huge KRAZ-257 were stolen literally within a period of a few months. Recently Lt Shevchenko, a young volunteer in the Ukrainian Separatist Army, stole just about 22 cubic meters of aircraft fuel. He was detained and... released. His request for transfer to the UNA [Ukrainian National Army] has reportedly been signed, which means that he is a foreign subject. In the meantime this "subject" made another attempt to steal aircraft fuel and... once again was caught.

Even stranger things have happened. An Il-76 aircraft was flown to Staraya Russa, for example, ostensibly for repairs. It never returned. They say that it was sold to a commercial structure.

The garrison runs on alcohol. Only when the officers have imbibed can they look one another in the eye without pangs of conscience. Maj Kartashov, chief of staff of an aircraft maintenance battalion, has been drinking for two months and not shown up on the job. The local police department has dozens of reports on arrests of drunken unit officers and warrant officers.

The situation is somewhat different with the flight personnel. The planes are still flying. They have long since washed their hands of the regular maintenance requirements of the IAS [Aircraft Engineer Service], to be sure. There are no technicians, no spare parts, no equipment for the proper maintenance of the planes, and this means that flight safety is a very problematic matter.

There is another dependency as well. It is called the "dollar" and the "Deutsch mark." The IIs in this division are used to transport Europe's humanitarian scraps, and these flights and TDYs are paid for with "bucks" or marks. Today's Russian pilots are prepared to do anything just to be able to fly "over there." This is why the news of the division's transfer was received practically without objection by its flight personnel.

The problem is not that they will have to live out in the steppe, in a former stable, even in tents. The problem is not that the containers with their belongings will be thoroughly tumbled about by Lithuanian customs agents and ripped off by our own Russian thieves, for whom the railways have long since become their own estate. What matters is that they not take you off flights "over the hill." If you speak out, though, they will immediately ground you. This is far easier to do today than during the terrible times of the political sections and personal files....

The division has to be withdrawn from Lithuania by the end of December. It is incredible but true that the order to move arrived at the various headquarters after Russia's minister of defense had announced a halt to the withdrawal. What is this, treason or bungling on the part of generals at the VTA's Main Staff who do not heed the orders of their ministers?

Just where did these unfortunate deadlines for the withdrawal of our troops from the Baltic area come from? I addressed this question to one high-ranking official of the "regional security department." In exchange for a promise of anonymity he showed us documents which showed that all of the withdrawal deadlines were set by... Russia itself....

"We were counting on two-three years," he admitted candidly, "and when our politicians and generals submitted their deadlines, we simply could not believe them. I am sorry, but everything is now signed and sealed. We have to implement the decisions."

And he is right, that official. Yeltsin's diplomats self-deprecatingly hastened to throw their own army out of the Baltic area, outdoing one another in writing out orders for the withdrawal of regiments and divisions. Yeltsin's army, just do the will of your president and get out of the Baltic area. The frozen steppes of Kurgan and the forests of Siberia await you. That is the place for you, an army which has lost its glory and honor!

The Military Transport Aviation of the Armed Forces of the USSR no longer exists. There are only divers regiments and divisions endeavoring to acquire supplies by hauling canned meat and alcohol for others. There are hundreds of pilots, formerly among the best, willing to sell themselves as servants to any khan or lord. There are concrete airfield runways costing billions which went to the new presidents large and small.

There will be no "new Russian army" of any kind without a great state, without ideas and discipline, without a true popular leader, without unity with its people. We should not comfort ourselves with illusions.

CIS: NAVAL FORCES

Nikolskiy: Return to the Carrier Debate
93UM0361A Moscow MORSKOY SBORNIK
in Russian No 11, Nov 92 pp 33-35

[Article by Capt 1st Rank V. Nikolskiy, candidate of technical sciences: "Once More About Aircraft Carriers"]

[Text] If you analyze the existing views on the question of equipping our Navy with aircraft carriers, in our opinion, they can be combined into three groups:

- denying the need to build any aircraft carriers and aircraft-carrying ships;
- recognizing the advisability of building them, but only special-purpose aircraft carriers;
- defending the need to build multipurpose aircraft carriers as the basis of our Navy.

The **first opinion** is typical of civilians, politicians, a number of scientists, and some in the military (to a lesser degree among seamen). It is formed under the influence of three factors: the generally "land" military doctrine of our state; insufficient knowledge of the real combat capabilities, effectiveness, and expenditures for the various competing weapon systems; and the difficulty of predicting the dynamics of development of the latter over a relatively long interval of time.

This position is actively supported by many people's deputies of Russia and a number of scientists—more often social scientists—on the pages of many newspapers and magazines, as well as over radio and television.

The **second view** stems from the concept of the advisability using aircraft carriers to supplement that structure of the Navy's weapon systems that was substantiated earlier. This view, judging from the frequent statements in the mass media, is dominant among sailors. To a greater or lesser degree, these include those who have spoken out in MORSKOY SBORNIK: L. Khudyakov, F. Matveychuk, V. Babiy, V. Potvorov, V. Kuzin, and V. Kharko.¹

The **third view** stems from the assumption that all the Navy's weapon systems, other than strategic nuclear forces, should be created as general-purpose systems with respect both to the kinds of wars and the potential adversaries, and also from the analysis of the correlation of the necessary expenditures for developing some or other weapons systems and the expected effectiveness of their accomplishment of various missions.

It is known that the USSR military doctrine worked up and partially implemented by the 1960's regarded the NATO bloc as the potential adversary. In accordance with this doctrine, the basis missions in the event of war (definitely a nuclear war, as was then believed) were to be accomplished by the Ground Forces, Air Force, and Air Defense Troops. The Navy was assigned the mission of securing the flanks of the maritime fronts and also conducting operations independently and in cooperation with Long-Range Aviation to destroy forward naval groupings of the enemy, above all his aircraft carrier striking forces and nuclear-powered ballistic-missile submarines [SSBN], and also to disrupt his sea lines of communication.

In that situation of universal missile euphoria, sensible experts were unable to prove that creating a balanced Navy, which would include all classes of ships, including aircraft carriers, would make it possible to count on great success when accomplishing missions of war at sea.

During those years the USSR began to implement the slogan "to catch up with and surpass the United States in number of nuclear-powered submarines," which the leadership at that time had elevated to the absolute of naval power. The opinion became firmly established that to destroy enemy aircraft carriers, it was necessary and sufficient to use long-range antishipping missiles launched from a triad of forces: submarines, naval missile-carrying aviation, and surface ships. Modeling clearly showed that the greatest effect was achieved when a preemptive strike is made against an aircraft carrier before its strike aircraft have taken off from the deck of the ship.

In recent years, however, despite the fact that supporters of these two conceptual positions (priority of nuclear-powered submarines and use of antishipping missiles against carriers), it seems to us, have dominated, they have also begun to support the view about the advisability of including a limited number of aircraft carriers in the Navy's composition (but mainly armed with fighters), which could effectively cover the existing naval forces, increasing their combat capabilities. True, V. Kharko talks about the relative weakness of this position in his article. The conclusion formulated by him and other authors, that the evolution of antisubmarine forces and assets has resulted in the fact that today nuclear-powered submarines cannot operate with sufficient effectiveness without support of other naval forces, so far has not found its logical conclusion. You see, this in and of itself already forces one to doubt the unconditional priority of submarine forces.

The change in the military-political situation recently has largely affected relations between Russia and the United States. Now it has been officially acknowledged that the United States is not regarded as our potential adversary and, consequently, the need for special forces of a domestic navy oriented on defeating the forward groupings of the U.S. Navy is sharply reduced. However, the instability existing both in the world and within the commonwealth can lead to a situation in which any of the states surrounding Russia or the CIS (or their coalition) may end up in the role of the aggressor. In such a situation, we will require a navy consisting of multipurpose forces not oriented on a specific enemy. Consequently, there must be an more extensive examination of its predictable tasks and the forces and assets required to accomplish them.

There has always been a small group of those in the Navy who disagreed with the existing concept of building a domestic navy. For known reasons, they were deprived of the opportunity to defend their views openly and, more important, safely for their future service. These experts believed that to neutralize an enemy aircraft carrier, it is sufficient to destroy or considerably weaken its carrier-based aircraft. Since they tried to prove that it is sufficient to destroy only 40 percent of the strike aircraft to break up an aircraft carrier's strike against any objective, they proposed that we build such carriers of ship-based aircraft which in cooperation with shore-based aircraft could accomplish this mission in aerial battles. They were the ones, in our opinion, who managed gradually to initiate the new concept of development of the Navy (not counting

strategic nuclear forces subject treaty limitations). Its adoption also caused the laying of the aircraft carriers [TAVKR] "Admiral Kuznetsov," "Varyag," and "Ulyanovsk," of which only the first has entered service so far. The latter two, like the very concept of aircraft carrier construction, have run into the present instability in the state's economy, and the future of at least the first of them is uncertain. Therefore, in our view, there is a need today to determine the priority of one of two alternatives in the prospects of development of the Navy: **continue the policy of developing the now-existing system of armament of the Navy or concentrate efforts on developing multipurpose forces whose nucleus is aircraft carriers.**

It seems to us that it is the decision on this alternative that will determine the fate of aircraft carriers in the Russian Navy. Of course, the very discussion of these issues will lead to a clash of many interests and require a large amount of study, both operational-tactical and military-economic. However, even without in-depth studies it is clear to experts that it is wrong to develop just the first direction without aircraft carriers being used at least to cover these forces. But at the same time, it is also clear that for economic reasons it is unlikely we will be able to build the required number of nuclear-powered submarines with antishipping missiles and aircraft carriers simultaneously. If we choose the second direction, which should not in the least decrease the combat potential of our Navy, the carefully thought out and thoroughly calculated numerical reduction of nuclear-powered submarines with antishipping missiles may be compensated for, and the various force organizations of the Navy may even be improved by including in them an increasing number of full-fledged multipurpose aircraft carriers. In experts' opinion, it is aircraft carriers that are able to carry out the most diverse range of missions, and not only against any maritime, air, and land enemy, but also in any war. They can conduct combat operations, for example, in the form of an "air-sea operation," and it is precisely this kind of an operation, as was demonstrated in 1991 in the war between the multinational forces and Iraq, that produces the greatest effect with minimum losses in personnel and equipment.

It is rather interesting that the ratio of the cost of building a nuclear-powered aircraft carrier and other ships in the United States (since it is the only one with such experience) is: the cost of a nuclear-powered submarine is about 10 percent of the cost of an aircraft carrier; the cost of a nuclear-powered submarine with ballistic missiles is about 40 percent; and the cost of surface ships is from 20 to 30 percent. So, the cost of building ships of this class is not as "preposterous" as some proponents of the first view for some reason present it. The experience of World War II and local conflicts, particularly the Korean War, objectively demonstrates that all conditions being equal, air superiority in a specific area or zone for ensuring the success of friendly operations was achieved only when one of the sides had at least a 1.5:1 superiority in number of combat aircraft (given approximately equal basic specifications and performance characteristics of aircraft, degree of training of personnel, and so forth). Therefore, no matter what models of combat operations at we we

examine, the presence of a highly mobile aircraft carrier group participating in conducting them becomes a decisive factor of success.

It is now known that the aviation of our "European" fleets—Northern, Baltic, and Black Sea fleets—according to the treaty are being reduced to 400 combat aircraft, i.e., approximately 60 percent. A mutual reduction can only be welcomed if it does not unilaterally decrease the combat potential of our Navy. However, that is not the case. We are losing our naval might more quickly than the West, and this to a certain degree could be compensated for by completing the commissioning of the "Varyag" and "Ulyanovsk" TAVKR's that were laid earlier, since the treaty on reducing arms in Europe did not taken into account carrier-based aircraft, due to which the United States does not plan to decrease its potential, which includes the might of thousands of carrier-based aircraft. But, alas, the "Ulyanovsk" has already been cut up, and the fate of the Varyag so far has not been decided.

The breakup of the USSR for all practical purposes also abolished its military doctrine and, consequently, all grounds for the adopted concept of development of the Navy. From all appearances, development of the Russian Navy now should be based not on the idea of some state as a "potential" adversary (it may change during the service life of even a small ship, and more than once), but on general trends of development of military shipbuilding and even on the country's economic capabilities and territorial characteristics. Potential adversaries in this concept should be taken into account when determining the numerical strength of some or other ships, but they should not predetermine the nature and orientation of development of the Navy as a whole. Working out such a concept today requires intensive work by the military, scientists, as well as politicians for immediate making of decisions on preserving and developing the Navy, because the period of today's uncertainty is visibly throwing us back decades, and we have always had to and undoubtedly will have to make up for lost time with difficult labor and inevitable losses in the country's material and financial resources.

FOOTNOTES

1. MORSKOY SBORNIK, No 12, 1991; Nos 1, 2, 5-6, 1992.

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Chief of Combat Training Directorate Interviewed
93UM0361B Moscow MORSKOY SBORNIK
in Russian No 11, Nov 92 pp 36-39

[Interview with Vice Admiral Aleksandr Vasilyevich Gorbunov, chief of the Combat Training Directorate of the Navy, by MORSKOY SBORNIK editorial staff; place and date not given: "And Still We Go to Sea..."]

[Text] *The economic and political situation that has developed in our country and the sharp reduction of appropriations for maintaining the armed forces in general and the Navy in particular have led to the appearance of the opinion in our society that the Navy is "laid up." In this regard, the*

editorial office asked Vice Admiral A.V. Gorbunov, deputy commander in chief of the Navy and chief of the Combat Training Directorate, to answer a number of questions.

[MORSKOY SBORNIK] Aleksandr Vasilyevich, obviously, such an opinion is particularly distressing to hear for those seamen who, despite the numerous difficulties, continue to go to sea on ships and stand their duty. Please tell us about the basic results of combat training in 1992.

[Gorbunov] It is obvious to everyone that training of the Navy's forces and all of our activities this year took place in a complex and unfavorable situation. The transition to market relations, the decrease in amounts of financing of defense needs, and the shortage of fuel, ship repair, and assets in support of combat training have required new approaches to organizing it. However, despite such conditions, our primary task remained to maintain the combat readiness of the Navy forces at the necessary level, especially since our former adversaries at sea, primarily the U.S. Navy, have not yet abandoned their strategy of "forward maritime boundaries." Graphic proof of this is the constant presence of their naval groupings in the waters directly adjacent to our country's coastline. The intensity of reconnaissance activities here by foreign navies not only has not declined but, on the contrary, has even increased markedly.

Naturally, today's conditions, above all the shortage and continuing reduction of monetary and material assets, are forcing us to reduce considerably the time for ships to practice missions at sea. Therefore, due to both the foreign-political and the internal situation, the Navy's activities in the ocean zone and in the Mediterranean Sea have been reduced considerably beginning in 1990. In connection with this, we have also sharply decreased the number of long cruises by ships and support vessels. Above all, this has affected support vessels (one-fourth) and surface ships (one-third). In addition, due to economic difficulties, we have had to reduce even the number, approved in the fall of 1991, of exercises and combat drills to be conducted at sea. The number of ships participating in tactical exercises has been decreased, as has the number of live firings with actual use of practice weapons. Therefore, we have had to expand the number of drills (performed without expending costly practice weapons), which are concluded with a so-called electronic launch. It is known that conducting actual launches of missiles, torpedoes, and bombs requires using a large detail of forces to ensure the safety of the exercise participants and outside ships, vessels, and aircraft. There also are quite a few restrictions and restraints when using weapons, while these problems do not exist with electronic launches, and commanders of task forces and ships and the staffs can focus all their attention on working out the entire set of specific tactics of employing the available weapons.

In conditions of strict economy of the service life of ships, much importance is placed on conducting base exercises, with activation of authorized command posts of all cooperating forces or their task groups, without going to sea or without a flight sortie, and only later do we organize comprehensive combat training of ships jointly with naval

aviation with mutual support, which makes it possible to practice combat training missions more effectively and achieve a considerable saving of the service life. Such exercises were carried out this year in all fleets. The effectiveness of this methods is indicated by the level of training achieved in the Pacific Ocean Fleet in the task force where Captain 1st Rank Yu. Kirillov is commander and Captain 1st Rank A. Appolonov is chief of staff. Here they conduct comprehensive practice as part of groups and successfully master and improve new equipment for searching for foreign submarines. Third-generation submarines are part of this task force, and maintaining them as part of the constant-readiness forces meets all modern requirements.

The submarine task force where Rear Admiral V. Isak is commander and Captain 1st Rank A. Smelkov is chief of staff can serve as an example in the Northern Fleet. The submariners of this task force successfully accomplish the tasks of the comprehensive combat training mission practice in the Arctic region. The Northern Fleet has an experimental exercise during which the strategic missile submarine commanded by Captain 1st Rank S. Yegorov (Department 2 commander—Captain 3d Rank V. Berezin; Department 5 commander—Captain 2d Rank V. Golovanov) performed a firing with a full combat load of ballistic missile mock-ups. As a result, the reliability of the weapons was confirmed, and the crew demonstrated its training, ability, and cohesiveness.

In implementing the combat training plan during the summer training period, basic attention was directed at restoring the combat readiness of ships after the discharge of personnel into the reserve (who had completed their set terms of service), in particular, on considerable crew reassignments. This is a complicated issue. Submarines, on which the crews are basically made up of officers and warrant officers, i.e., professionals, are in the best situation in the fleets for strength level and overall training level. Here the discharge of compulsory-service seamen and petty officers into the reserve does not have a significant effect on the quality of training and makes it possible to restore crew combat readiness in the shortest possible time. In those places where the composition of the crews is mixed, considerable difficulties arise. This pertains primarily to surface ships.

Here, in addition to the problems associated with the economic crisis that are common to all naval forces, there is another one—the high personnel turnover rate, which was made worse by the Navy's transition to a two-year term of service for draftees. This required the majority of surface ships during the summer training period to practice first course tasks at the base. Due to all these reasons, the warships and support vessels traveled 37 percent fewer miles this year than in 1991. The number of sailing ships and vessels was reduced 28 percent compared to 1991.

If we talk about ships of various classes, it should be noted that among them, the ocean-going large ships and support vessels actually do spend a considerable part of the time at the mooring space. The civilian population, like we sailors, are unaccustomed to seeing them at the piers. Before, they

came into base, as a rule, only for repairs. It is natural that the present situation is leaving a negative mark on the mood of the seamen striving to be at sea the proper way. Nevertheless, it cannot be said that the Navy is "laid up."

[MORSKOY SBORNIK] In your view, is the number of scheduled and actual maritime cruises sufficient for accomplishing the missions facing the Navy, preserving the necessary degree naval combat proficiency of crews, and maintaining them at a combat-ready state?

[Gorbunov] Many years of experience indicate that limiting the sailing of ships does not help to maintain them at constantly high combat readiness for accomplishing the missions facing the Navy and adversely affects the quality of crew training, thereby creating near-accident situations. Therefore, we strive to maintain the number of cruises for warships and support vessels at a sufficient level. But this is being achieved with great difficulty even with the strict economy of fuel and service life. Here we must emphasize another distinctive feature of the present organization of combat training. It involves the fact that with today's twice annual changeover of more than 50 percent of compulsory-service personnel on the crew of any ship, in each training period we have to practice virtually all over again the complete cycle of tasks for the combat training course. The intensity of combat training of ships and task forces and, consequently, the intensity of their sailing for this purpose are nearly doubled. Each qualification test on course tasks must be forewarned by conducting at sea at least two preparatory measures (for practicing practical skills and crew interaction), without which it is impossible to achieve quality of professional training of personnel. A graphic confirmation of this is the delayed commissioning of the aircraft carrier [TAVKR] "Admiral of the Fleet of the Soviet Union Kuznetsov" as part of the constant-readiness forces. During the winter training period, its crew actually went to sea only twice. Then in May-June, 58 percent of the personnel were discharged into the reserve. All this objectively led to a decrease in the level of training already achieved; the ship began practicing anew the course tasks to restore this level of training. This situation will be repeated at the end of the year. So, professionalization of personnel and moving to service under contract are quite timely for the Navy.

Today we are doing everything possible to overcome the present difficulties by increasing the quality and intensity of combat training, introducing effective forms and methods of conducting training measures, and constantly improving the training facilities. However, we realize that even the most effective base training does not increase the naval combat proficiency of crews.

[MORSKOY SBORNIK] On the whole, the reasons precluding frequent and long cruises are generally known. Nevertheless, could you touch upon them again, dwelling in greater detail on those which are classified as "internal" reasons?

[Gorbunov] These reasons indeed can be divided into two groups: external and internal. The external ones include

the changes in the political situation in the world; the internal ones include the internal situation, although they are interrelated.

Among the latter are:

- the reduction in funds for maintaining the ships (supply of fuel and lubricants, replenishment of spare parts, ship repair, and so forth);
- the decrease in the level of military discipline: personnel going AWOL and transferring to armed forces of other states; insufficient social protection of seamen in a number of already "foreign" states (Georgia, Azerbaijan, Ukraine, the Baltic countries).

The effect of these reasons is quite diverse. For example, due to them, certain large-scale command post exercises were postponed to a later date or eliminated from the schedule altogether. In particular, the command post exercise of the Caspian Flotilla and the Black Sea Fleet was canceled due to the complex social and political situation. An operational-tactical exercise of the Kola Flotilla was conducted on simulators. A command post exercise of the Baltic Fleet was substituted for a staff exercise and conducted using maps due to the lack of fuel.

Unfortunately, a negative phenomenon such as the reluctance of young officers to serve is becoming widespread. They see no future in the service. Thus, in the Pacific Ocean Fleet, in the task force of Rear Admiral V. Kozhevnikov, six of the seven officers who graduated from the navigation department of the Naval School of Submarine Navigation imeni Lenin Komsomol [VMUPP] do not wish to serve.

However, the Navy is holding together in spite of everything. And this is thanks to the honesty and loyalty to the oath of the majority of officers, warrant officers, and seamen. True, recently the government of Russia has begun to devote more attention to military issues, and I would like to believe that our difficulties are temporary in nature.

[MORSKOY SBORNIK] In conclusion, I have a request—briefly inform the readers about measures undertaken and planned by the leadership of the Navy to assist commanders locally in accomplishing "naval" missions.

[Gorbunov] This work is being conducted along several directions. We are improving the organization of planning and the course of accomplishing combat training. In accordance with this, we have already made an adjustment to the combat training plans, worked up a number of measures, and specified the norms for maintaining ship combat readiness in 1992-1993.

Urgent steps have been taken to strengthen military discipline: special attention is being given to creating safe conditions for performing service in order to prevent injuries and deaths. In addition, the organizing and monitoring activities of supervisory personnel of the Navy have been directed at blocking the channels of theft of weapons, ammunition, military equipment, and property.

We have stepped up monitoring the observance of requirements of laws and guiding documents and are fighting to stamp out barracks hooliganism, mockery, and malicious insulting of people.

In addition to the above measures, in the future, by the year 2000, it is planned to increase the combat capabilities of the fleet forces through the commissioning of modern ships into the force composition; comprehensive support of combat training by providing simulators and training equipment based on personal computers and modern machine programs and methods; improving all types of support and the system of basing fleet forces; and solving the social problems of servicemen, above all, the housing problem.

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Anniversary of Warship Construction Institute
93UM0361D Moscow MORSKOY SBORNIK
in Russian No 11, Nov 92 pp 57-58

[Article by Vice Admiral V. Polyanskiy, chief of the Main Shipbuilding Directorate of the Navy: "Sixtieth Anniversary of the Central Scientific Research Institute of Military Shipbuilding"]

[Text] The history of the domestic Navy convincingly proves that it is impossible to build a navy in general and a modern one in particular without a skilled resolution of a series of scientific-technical and organizational issues. Today, the leading scientific research organization of the Navy is the Central Scientific Research Institute of Military Shipbuilding [TsNIIVK], created in 1932 as the Scientific Research Institute of Military Shipbuilding of the Navy of the Workers' and Peasants' Red Army [RKKA].

The "Scientific Committee," formed in 1802, should be considered as a distant predecessor of the TsNIIVK in the area of shipbuilding. Throughout its history this committee underwent various organizational and structural changes, named at various times the "Naval Scientific Committee" (1827) and the "Naval Technical Committee" (1867). But it was always left with the role and functions of a scientific body of military shipbuilding, which compiled the specifications for designing ships and mechanisms, examined projects and monitored all the work for designing and building the ships, and also prepared findings on technical issues that arose during the course of building the ships.

Under Soviet power, these issues came under first the Supreme Naval College (1917) and then the Scientific and Technical Committee of the Naval Department [NTKM], formed in 1923.

In the future, however, in conditions of the rapid development of domestic military shipbuilding, the NTKM could not handle the broad scope of designing and building warships, and in 1932 a system of scientific research organizations was formed based on its sections, including the Scientific Research Institute of Military Shipbuilding [NIIVK], the Scientific Research Chemical Institute

[NIKhIM], and the Laboratory of Sanitation and Hygiene. Later on, the two latter scientific organizations, after going through a number of organizational and structural changes, became part of the NIIVK.

The newly formed NIIVK was a scientific organization of the RKKA Navy, having at its disposal skilled scientific and design personnel and also a fairly powerful experimental base for that time. It fulfilled the role of a lead organization among the Navy's institutes, combining and coordinating their efforts in relation to presenting specifications for delivery and designing of armament and equipment for ships as a whole. However, in connection with the formation of the People's Commissariat for the Shipbuilding Industry, it was necessary to create a reputable scientific shipbuilding body in the shortest possible time. To this end, by decree of the USSR Soviet of People's Commissars of 26 May 1938, the NIIVK was transferred to the shipbuilding industry together with its experimental facilities and virtually all scientific and technical personnel. Here it became the lead institute of the sector and was called the TsNII-45 and then the TsNII imeni Academician A.N. Krylov.

With the transfer of the NIIVK to the shipbuilding industry, the central coordinating link in the system of scientific research organizations of the Navy was lost. Therefore, the functions that were performed by the NIIVK in the area of military shipbuilding were entrusted to the Scientific and Technical Committee [NTK] of the Navy (1939), which continued the NIIVK's activities in monitoring the designing of ships and creation of experimental models of equipment; in conducting full-scale tests of ships; for scientific summarizing of experience of foreign military shipbuilding and coordinating the activities of the Navy's scientific research institute.

The activities of the NTK associates were multifaceted, if you recall that 1939-1941 were years of massive construction of warships for the Navy. The years of the Great Patriotic War of 1941-1945 were a special and heroic chapter in the history of the main scientific body of military shipbuilding. The history is linked to the development of measures to combat mines, strengthen anti-aircraft armament, strengthen ship hulls, work up recommendations for actions by commanders when their ships received heavy battle damage, and implement measures of camouflage, concealment, and deception.

As the contours of our victory were being drawn out, long-term research design taking into account war experience and concern for the postwar development of the Navy occupied an increasing larger place in the NTK's activities. But already by the end of the war it had become obvious that the NTK in its form at that time was unable to handle these functions: the question of reviving the main naval scientific body of military shipbuilding—an appropriate scientific research institute—came to a head. By decision of the People's Commissariat for the Navy in late December 1945, the NTK of the Navy was transformed into the Central Scientific Research Institute of Military Shipbuilding (TsNIIVK), which participated directly in forming the first 10-year military shipbuilding program.

One can clearly trace the continuity in the history of scientific bodies of Soviet military shipbuilding. The NIIVK—NTK—TsNIIVK are links in the same chain, stages of development of the main scientific body of military shipbuilding. This continuity is expressed in their accomplishment of the same basic functions, in the developing traditions of military shipbuilders, and in the continuity of generations of scientists and scientific associates. Vice Admiral N.V. Alekseyev, engineer, was appointed chief of the postwar TsNIIVK. He was replaced by Vice Admiral L.A. Korshunov, engineer, who headed the collective from 1950 through 1969. Vice Admiral V.N. Burov, doctor of technical sciences and professor, and Vice Admiral M.M. Budayev, professor, headed the institute in subsequent years.

The 1946 statute on the TsNIIVK states that the TsNIIVK is the designing and scientific research body of the Navy in charge of preliminary and technical designing and scientific research and experimental design work for creating new models of naval equipment, summarizing experience in the field of shipbuilding, working up rules, and also resolving individual scientific research problems arising in the process of designing, building, and operating Navy ships.

Three stages can be clearly identified in the institute's postwar activities: The first is the first postwar decade when Soviet military shipbuilding and naval and scientific and technical thought, taking into account the experience of the past war, created ships with traditional weapons and equipment. The second is the stage of creating an ocean-going Navy based on the scientific and technical revolution, that is, on the achievements in the development of nuclear weapons, atomic power engineering, missile building, and electronics. During those years it was necessary to work out a new scientifically proven policy of developing fleet forces that meet the new tasks. This was accomplished by conducting comprehensive theoretical and experimental scientific research, which served as a basis for forming military shipbuilding programs. It was necessary to determine ways of using ballistic, cruise, and surface-to-air missiles from ships, develop shipboard nuclear power plants, work out requirements for protection nuclear weapons, resolve problems of liveability on long cruises, and so forth. It was necessary to enlist the help of the country's scientific organizations and prominent scientists in the work in the interests of the Navy. Finally, it was necessary to develop in every possible way the laboratory and experimental facilities.

In accomplishing these tasks, the institute's collective coped with a number of complex scientific and technical problems, which served as a basis for subsequent improvement and series-construction of ships.

It can be said without any exaggeration that the institute became the leading scientific research body of the Navy. Its history is a part of the history of the domestic Navy, since the subject matter of its scientific works reflects the evolution of views on naval art of recent decades and implementation of these views in the designing and construction of ships.

The institute was faced with new tasks in the third stage that were considerably more complex both in scale and depth of the scientific studies required, as well as the depth of predicting the prospects of developing the fleet forces.

The operational-strategic interests of our state advanced before shipbuilding increasingly new tasks. It became increasingly more common for ships to stand alert duty in remote areas of the world's oceans, and this determined a whole set of scientific and technical problems, the solution of which provided an opportunity to ensure reliable and steady accomplishment of combat missions by the Navy's ships at a long distance from the bases and isolated from them for a long period of time. More important, it made it possible to predict and scientifically forecast future paths of development of technological progress in military shipbuilding and visibly imagine what the combat qualities and engineering make-up of ships would be in the distant future.

In the more than half-century of its existence, the institute has made a significant contribution to the building of the Navy, the theory and practice of military shipbuilding, and to the development of shipbuilding sciences. And during today's difficult times for the Navy, the officers and employees of the TsNIIVK are exerting efforts to preserve and multiply the intellectual scientific potential of the Navy, which always was and, we hope, will remain the pride of our homeland.

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Black Sea Fleet Technical Chief on Equipment, Fleet Problems

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[Interview with Rear Admiral Aleksandr Ivanovich Aladkin, chief of the Technical Directorate of the Black Sea Fleet, by Capt 1st Rank B. Tyurin, MORSKOY SBORNIK correspondent; place and date not given: "The Black Sea Fleet's Present"]

[Text] One of the basic elements of the combat effectiveness of fleet forces is their technical combat readiness and the degree they are supplied with the prescribed levels of stores. A special complexity in maintaining the required level of combat effectiveness of the forces in connection with confusion of status and chain of command has developed in the Black Sea Fleet. Our correspondent talks with Rear Admiral A.I. Aladkin, chief of the Technical Directorate of the Black Sea Fleet, about those problems which have emerged today in the Black Sea Fleet.

[Tyurin] Aleksandr Ivanovich, what issues do you and your subordinates resolve within your jurisdiction?

[Aladkin] The Technical Directorate of the Black Sea Fleet is charged with accomplishing many and diverse specific tasks, the main ones of which are achieving and maintaining, in accordance with the requirements of guiding documents, the technical readiness of engineering and aviation departments of ships and services of fleet task forces.

A guarantee of their successful accomplishment, as at all times, is the uninterrupted financing of repair of the fleet's ships and material-technical supply. Without timely repair work and the delivery of all types of support, including supplies, spare parts, operating gases, fuel and lubricants, and so forth, the existence of the fleet's ships in general is inconceivable, not to mention maintaining them at a high degree of combat readiness.

As a result of the sharp reduction in funds being allocated for repair and material-technical supply of ships, against the background of the considerable increase in prices both for performing the repair work itself and for all types of deliveries, the degree ships of the Black Sea Fleet were provided with ship repair fell from 72 to 49 percent. Thus, in 1992, 50 ships and vessels ended up not accommodated for repairs. Taking into account the fact that the fleet has a considerably large number of ships and vessels in operation that are "of advanced age," to put it mildly, and new ships are not coming in, it is not hard to forecast its near future if financing and supply remain at today's level.

In addition, with an estimated need for financing of ship repairs in the Black Sea Fleet in 1992 of about 1.5 billion rubles [R] (in 1992 prices), only one-third has been paid in the past eight months. Thus, the shortage of money will not make it possible to carry out even a sharply reduced ship repair plan. One should add to this the fact that the Black Sea Fleet, receiving monetary funds from "above," loses R30-40 million in the form of tax out of every R100 million allocated for ship repair. I am deeply convinced that a serious mistake has been made here. You see, this artificially overstates the amount of funds being spent on maintaining the fleet. It seems quite reasonable to abolish the taxes on those funds that are allotted for fulfilling orders of the Army and Navy.

[Tyurin] As we know, ship repair is done both by ship repair enterprises of the Main Directorate of Shipyards of the Navy and enterprises of the State Industrial Committee [Gosprom]. But where is it more advantageous for the fleet to put its ships and why?

[Aladkin] The existing ship repair capacities of shipyards of the Main Directorate of Shipyards of the Navy are insufficient to repair the ships and vessels of the Black Sea Fleet. Therefore, we are forced to put a large part of them in shipyards of the Gosprom, despite the fact that it costs us considerably more to have the repair done at these enterprises. Here is an example: in 1991, the cost of repairing a Project 1135 patrol escort at an enterprise of the Navy was R7 million (in 1991 prices), and for the absolutely identical repair of the same ship at the Sevastopol Shipyard (Gosprom) we had to pay R24 million! In addition, the time period for making repairs at Gosprom shipyards, as a rule, is considerably longer than the duration of similar repairs at Navy shipyards. This is primarily because the Gosprom enterprises are not adapted to making comprehensive repairs on ships and more often are forced to enlist the help of contractor organizations for work on a number of the ships' mechanisms and devices.

It is clear from what has been stated above that it is more advantageous, both to reduce the time of repairs and to save money, to place as many ships and vessels as possible at Navy shipyards. However, the sharp reduction of limits on ship repair yards of the Navy, under plans of "so-called conversion," force them to seek orders on the side to load up production facilities. It turns out that civilian organizations are placing their orders at our fleet shipyards "to save money," and we are forced to place our ships and vessels for repair and pay through the nose at Gosprom shipyards. And there is no way we can prove this obvious illogicalness in the corresponding levels of authority. It is likely that someone is profiting from this. Therefore, I believe that *conversion of the Navy's ship repair enterprises in the form existing today ultimately undermines the defense capability of the fleet!*

[Tyurin] Then the next question is in that context. It is known that the existing shortage of domestic military ship repair capacities has forced us to arrange for ship repair abroad. In today's conditions, are ships and vessels of the Black Sea Fleet being repaired abroad?

[Aladkin] Yes, presently there are seven ships and vessels of the Black Sea Fleet under repair in Bulgaria and Poland. In Bulgaria, for example, there are two diesel submarines, one hydrographic research ship, one passenger vessel, one medium seagoing tanker, and one salvage tug. There is one oceanographic research ship in Poland. However, on 1 January 1992, their repairs were virtually halted due to non-payment of our debts on work performed in 1991 and termination of financing of these orders in 1992. Our indebtedness to Bulgaria for 1992 alone was \$4.68 million. It requires approximately \$12.5 million to complete repairs of the ships and vessels in Bulgaria, including payment of indebtedness. But the question of payment is not being resolved, and just the anchorage of ships and vessels of the Black Sea Fleet at shipyards abroad, even without any work being done on them, increases the indebtedness and inflicts economic damage on our country. Thus, just the anchorage of ships in the port of Varna costs us more than \$87,500 each month (payment for water, electricity, and so forth) and more than \$1.1 million a year. Imagine the irretrievable expenses and waste of capital for all foreign ports where our ships are standing!

In Bulgaria, repairs on the salvage tug (SB-5) are complete, but it has been attached until payment in full of our indebtedness! That is, instead of profit from its work, it continues to incur losses. The degree of technical readiness of one of our diesel submarines also in Bulgaria is 96 percent, but its repairs will be completed only after continuation of their financing, and the work left to be done on this submarine, according to our calculations, could be completed in 1.5-2 months.

[Tyurin] What is it like for the crews there? Don't they feel that they have been left to the mercy of fate because of the politicians and high-ranking state and military officials?

[Aladkin] We know that our military seamen and civilian personnel of the vessels are experiencing enormous difficulties and deprivations and great moral dissatisfaction.

The crews are deprived of normal everyday conditions and are eating practically only canned goods. An unfavorable moral and psychological situation has developed on the ships with military crews, and on ships with civilian crews that are undergoing repairs abroad, the situation is on the verge of mutiny.

[Tyurin] What is the way out of this situation? What steps are being undertaken?

[Aladkin] In my reports to the command authorities, I suggested asking the government of Russia to allocate the necessary amount in convertible currency to settle accounts for repair of ships and vessels, and not have our ships repaired abroad until the economic situation in the country improves. We can find the currency to pay for the repair of those ships already there. For example, in February-March of this year, Russia sold Bulgaria military equipment and property worth more than five times what is required to complete repairs on our ships and vessels. However, it was transferred in full to the banks of Germany and France, probably to pay off a state debt.

[Tyurin] Then another question arises. Can the commercial structures of the Army and Navy help in this matter? That same "Nevikon-Akhtiar" (the successor of "Nevikon-Ukraine" and so forth), trying to specialize in the area of selling fleet property (those same decommissioned ships or other equipment) abroad? Does the Black Sea Fleet profit from them?

[Aladkin] I believe that they are of little benefit, at least for the Black Sea Fleet. It is my opinion that the Army and Navy should not have such structures. In the interests of that same fleet, we should authorize chiefs of departments and directorates of the fleets to sell property and equipment of decommissioned ships and non-liquid assets (excess property) at market prices, to make barter transactions, and to open individual fleet accounts in the State Bank—both currency and ruble accounts. And these funds should be at the disposal of the fleet commanders.

[Tyurin] On the whole, the difficulties of ship repair in the fleet are clear. Some of the ships, which are of value, are being delayed in repairs, and others, not having the opportunity to undergo repairs, are being taken out of service. But at the same time, obsolete combat units continue to be decommissioned from the fleet?

[Aladkin] Yes, of course. This year alone, the following were decommissioned from the Black Sea Fleet: the large amphibious warfare ship [BDK] "Krymskiy komsolets," the destroyer [EM] "Svedushchiy," one medium amphibious warfare ship [SDK], and several patrol escorts and ocean minesweepers... On the whole, in 1992 about 71 units were subject to decommissioning: 24 ships and 47 vessels and small watercraft. Their number also includes the MRK "Groza," and several Project 613, 633, and 641 diesel submarines. So, as you can see, the numerical strength of the Black Sea Fleet is being reduced, and this process will continue in 1993.

[Tyurin] Aleksandr Ivanovich, as you know, Ukraine is unilaterally financing some of the ships and vessels being

built at the Nikolayev and Kerch shipyards and commissioning them, but under its own flag!

[Aladkin] Indeed, fairly recently the Ukrainian colors were hoisted over the special-purpose ship "Pridneprovye," which the Ukrainian side renamed "Slavutich." The ship was built at the Black Sea Shipyard Production Association. Prior to 1 December 1991 it was being built under an order by the USSR Navy, and for that period all costs for its construction were paid by the Main Shipbuilding Directorate of the Navy, and already at that time the ship had a high degree of technical readiness. Ukraine, having only completed the ship, declared it to be its own exclusive property. The same fate is taking shape for another order being built for the USSR Navy—escort ship Project 1135.5. It was recently completed at Kerch and, having been renamed "Poltava," is preparing to hoist the Ukrainian colors. There is no reason to talk about competence from the standpoint of legality and following official intergovernmental understandings between Russia and Ukraine concerning the Black Sea Fleet. In general, most of the members of the Black Sea Fleet are getting the opinion that this is being done with the tacit consent of Russia, which, as they say here, "is turning over the fleet in one package with Sevastopol and the Crimea."

Judge for yourself. Can one really recognize Ukraine's "exclusive" right to ships which were built by the entire country and basically by the investment of material and monetary assets by Russia? Even if you look at this new Kerch escort ship... Yes, the shipyard building it is located in Ukraine. Yes, the gas-turbine power plant of this ship was created to a greater degree by the labor of specialists at the Nikolayev Production Association "Zarya." But the ship, you see, is not just a hull and gas turbines manufactured in Nikolayev and Kerch. There is also the "filling": weapons, armament, various equipment. And in forming the "military" make-up of the ship as a whole, until the very last moment of completion they came from Russia, for only Russia, based on its defense infrastructure, fulfilled deliveries for the fleet for missile and artillery armament—95 percent, mine and torpedo armament—96 percent, radar armament—85 percent, communications equipment—70 percent, technical and boatswain's stores—80 percent, and for individual positions the full 100 percent.

What is more, Ukraine does not make artillery and small-arms ammunition; percussion firearms and antiaircraft missile weapons; torpedoes; mines; depth charges; a number of components of shipboard navigation equipment; marine diesel engines for warships and spare parts, tools, and accessories kits for them; high pressure air compressors and fittings for submarines; storage batteries; and many, many technical stores without which a warship is inconceivable. And for those same "Nikolayev gas-turbine engines," Ukraine received from Russia high-alloy high-temperature Urals steel and the same ball and roller bearings. Thus, would Ukraine have been able to build or complete building one ship of those ordered by the Navy before December 1991 if they would not have been at such a high degree of technical readiness by that time and would

not have been supplied with the necessary equipment components? If it wants to create its own navy independently, it still will have to turn either to Russia or to the West for help. You see, a modern warship is not a Zaporozhye "Chayka."

[Tyurin] Returning to the problem of the participation by Russia and Ukraine in maintaining the Black Sea Fleet, could you briefly comment on the present contribution of both states?

[Aladkin] Beginning 1 April of this year, in accordance with interstate understandings, Ukraine is charged with the financial upkeep of the Black Sea Fleet. The saddest and most significant thing is that the Black Sea Fleet has already been excluded by Russia from plans of replacing its seagoing forces. Now, when the Black Sea Fleet has been given the unclear status of a "fleet that is not an element of the CIS Navy," Russia has sharply reduced our deliveries of supplies, fuels, spare parts and accessories, and other types of rations.

Here is just one example concerning the extent the Black Sea Fleet is supplied with technical and boatswain's stores in 1992. It takes 18,000 tonnes of technical and 6,500 tonnes of boatswain's stores annually for normal functioning of the fleet forces of today's composition. However, in September of last year, the Black Sea Fleet was virtually removed from the center's allowance, and in the last 10 months we have received from Russia only 36,000 tonnes of technical cargo (less than 0.2 percent of what is needed), and about 160 tonnes from Ukraine (less than 1 percent of what is needed). Comparing volume and absolute figures, it turns out that the latter seemingly is devoting more attention to the needs of the Black Sea Fleet than Russia. It is possible that this is the result of the fact that lately there has been increasingly demonstrated a trend of tacit agreement of Russia with Ukraine's opinion that "the Black Sea Fleet is Ukrainian," and therefore the Russian structures no longer see us in their plans.

Now, to complete the picture, some data on the shares of the real contribution to supplying the Black Sea Fleet by Russia, Ukraine, and other CIS members. We submitted these figures as part of a package of documents to the interstate bodies deciding the fate of the Black Sea Fleet today:

- for missile, artillery, and mine and torpedo weapons and weapon systems: Russia—96 percent; Ukraine and others—4 percent;
- for engineer and chemical munitions and equipment: Russia—98 percent; Ukraine—2 percent;
- for emergency rescue equipment: Russia—92 percent; Ukraine—8 percent;
- for radar equipment and fuel and lubricants: Russia—85 percent; Ukraine—15 percent;
- for navigation-hydrographic and navigation equipment, armored equipment and accessories, and technical and boatswain's stores: Russia—80 percent; Ukraine—20 percent;

—for housing and quarters property and supplies, construction materials, and equipment for capital construction: 50 percent each;

—for property and armament of the auxiliary fleet: Russia—100 percent;

—for food: Ukraine—97 percent; Russia—3 percent.

[Tyurin] Aleksandr Ivanovich, isn't the accident rate high in the fleet, and what do you think is the reason for this?

[Aladkin] As far as I know, the technical accident rate in the Black Sea Fleet is now the lowest in the Navy. Lately we have had 1-2 accidents a year and about 10-15 equipment breakdowns. As an analysis showed, more than 80 percent of all accidents and breakdowns are the fault of personnel. However, there is also another side here. I will explain it using the following example.

The fleet includes, among other ships, small ASW hydrofoils. They were designed by the Zelenodolsk Design Office and built by the More Shipyard. During the period of operating the prototype, it was ascertained that it was being repaired more than 40 percent of the total operating time, but despite our reports and suggestions for eliminating obvious design and production flaws, the decision was made to build a series of these ships. As a result, we spent more than 50 percent of the time correcting malfunctions on the next ship we received. If you combine this kind of quality with a decline in interest of officers, warrant officers, petty officers, and seamen in serving in conditions of today's uncertainty, this seriously complicates the entire set of steps being taken to reduce the accident rate.

After the loss of the nuclear-powered submarine "Komsomolets," a great deal was written about the causes of its loss and the accident rate as a whole. All the main reasons were stated, but I would like to name one or two more individual ones. One is that the Main Shipbuilding Directorate of the Navy is responsible only for the stages beginning with the technical specifications for designing the ship and ending with its being turned over for operation; other organizations of the Navy are responsible for operation of the ship until it is decommissioned. When the technical directorates of the fleets make claims against the designers and industry for design and production flaws, the Main Shipbuilding Directorate of the Navy often takes their side, trying to shift all the responsibility on the ship personnel. Such a thing happened with us with the aforementioned small ASW ship.

I would cite as another reason a certain social unfairness with respect to engineering officers of the fleet and petty officers of engine-room teams of ships, which to a considerable extent decreases their interest in serving. Judge for yourself! Having under his supervision almost all the ships equipment, from the hull and to complex electronic systems, and having subordinate to him more than one-third of all ship personnel, the ship's engineering officer is quite limited in promotions, and his wages are practically no different than those who have very little supervision and only a few subordinates. Therefore, with the overall

decline in prestige of serving in the Navy, it is falling at a more rapid rate among engineering officers.

Engineering department personnel have the most difficult and dirty, in the direct sense of the word, work, but it is evaluated unfairly. Therefore, engineering departments have a chronic shortage petty officers in charge—warrant officers—who, as we know, have a 6th class rating, and they strive to transfer to other departments. I have served in the Navy for more than 30 years, and as far as I can remember, they have tried at all levels to decide the question of transferring the positions of petty officers in charge of engineering teams from 6th to 9th class rating, but it still has not yet been decided. Is this another reason for the accident rate?

So, as you can see, we have many problems, but we will do everything within our power to see that the Black Sea Fleet remains technically combat ready.

[Tyurin] Aleksandr Ivanovich, on behalf of the readers, allow me to thank you for such a detailed conversation. We wish you success in the service and hope very much that the Black Sea Fleet will yet see better times.

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Swedish Investigation into Submarine Incursions

93UM0257A Moscow ROSSIYSKAYA GAZETA
in Russian 28 Nov 92 p 7, 1 Dec 92 p 8

[Two installments of article by Vyacheslav Kocherov and Aleksandr Mozgovoy: "The 'Swedish Komsomolets' Syndrome"]

[28 Nov 92 p 7]

[Text] The opposition Social-Democratic Workers' Party of Sweden (SDWPS) is demanding the creation of an independent commission to investigate violations of the country's territorial waters by foreign submarines. However, the government, headed by Carl Bildt, leader of the conservative Moderate Coalition Party, is categorically opposed to this. According to the prime minister's press secretary, such a commission cannot begin working until the Swedish-Russian expert-level negotiations on this subject are concluded.

I.

These negotiations began in January of this year. They concern a problem which has spoiled Soviet-Swedish, and now Russian-Swedish, relations for more than 10 years. The cause of this was an incident that occurred in October 1981, when a Soviet submarine under number 137 was discovered aground in a closed zone of Swedish territorial waters near the Karlskrona Naval Base. Moscow made an apology to Stockholm, and the USSR Naval Command stated that the incident was the result of a malfunctioning of a number of navigation systems on the submarine and flagrant errors in command and control of the ship. But the Swedish side did not accept the explanations. Since that time, the "submarine" problem has become a splinter in bilateral relations.

During the course of experts' negotiations, competent Russian specialists provided the Swedes, above all, classified information: the Incident Investigation Report, excerpts from the operational instructions and watch log of the Soviet submarine, its navigation maps, as well as other documents confirming the unintentional nature of its entry into Swedish territorial waters. Alas, contrary to the facts, the Swedish side officially refuses to admit the obvious.

We have managed to obtain certain documents associated with the 1981 incident and the Russian-Swedish negotiations. We believe that they should be made available to the broad public, since, as experience shows, secrecy in analyzing this issue does not contribute to the outcome of one of the most critical problems in the bilateral negotiations. Of course, due to the limited newspaper space, we are citing only excerpt from the documents, but they reflect key aspects.

So, here are the main actors in this story. We will begin with the indisputable "heroine"—submarine S-363—hull number 137 (the Swedes designate it U-137, and immediately after the 1981 incident our naval wisecrackers named the submarine the "Swedish Komsomolets" after other Soviet ships bearing "Komsomol" names.

Here is what the Investigation Report says about the people who were considered the main people responsible for the incident:

"The commander of submarine S-363, Captain 3d Rank Anatoliy Mikhaylovich Gushchin, was appointed by Order No... of 11 December 1980 of the commander in chief of the Navy and took command of the ship on 20 January 1981. He was certified for independent control of a Project 613 submarine by Order No... of 17 July 1977 of the commander of the Baltic Fleet, and the certification was approved by Order No... of 5 February 1981 of the commander of Submarine Brigade 157.

"He has no running voyage experience on combat duty.

"The commander of the navigation department of submarine S-363, Senior Lieutenant Anatoliy Ivanovich Korostov, was appointed to the position of commander of Department 1 of submarine S-363 by Order No... of 24 August 1979 of the commander of the Baltic Fleet.

"He was certified for independent control of the navigation department by order of the submarine commander in March 1981.

"He has no running voyage experience on combat duty.

"The senior officer aboard the submarine, the chief of staff of Submarine Brigade 157, Captain 1st Rank Iosif Fedorovich Avrukevich, was certified for independent control of a Project 613 submarine by Order No... of 1969 of the Commander of the Baltic Fleet.

"In December 1973, he was appointed to the position of deputy commander of Submarine Brigade 157, and in August 1976, after graduating from the Naval Academy, was appointed to the position of chief of staff of Submarine Brigade 157."

From these few lines it is clear that the commander and navigator of the submarine were by no means "old sea dogs," as some try to picture them, but were novices in their positions. That is why the brigade chief of staff, Captain 1st Rank I. Avrukevich, designated senior officer on the cruise, was appointed to look after them, but we will find out below how he fulfilled the functions of mentor.

On 27 August 1981, the Headquarters of the Baltic Fleet approved the operational instructions for the commander of S-363. The "Missions" section indicated:

"a) Primary mission:

"Search for and track foreign submarines in areas P-1 and P-2;

"b) Additional missions:

"—reconnoiter the naval activities of foreign states;

"—discover the activities of research vessels;

"—discover the intensity of navigation and fishing;

"—improve elements of tasks L-2, L-3 KDPL-75g..."

Among other things, the operational instructions gave instructions on ensuring safety of navigation: "It is forbidden for the submarine to approach closer than 5 miles to the territorial waters of foreign states."

On 16 September, S-363 put to sea for the patrol area from Paldiski and on 7 October entered the port of Swinoujscie (Poland). According to the Investigation Report, further events developed in the following manner:

"At 1822 hours on 17 October, submarine S-363 left the port of Swinoujscie, after mid-voyage repairs, to continue combat duty to the east of Bornholm Island, which prior to this was being conducted in the same area for 22 days.

"At 1810 hours on 18 October, proceeding submerged, the submarine collided with a trawling device of a fishing vessel at a point 55:09N 16:07E. As a result of hitting the floating underwater obstacle, the loop directional antenna was damaged and was impossible to use.

"That same day, a unstable change was detected in echo sounder depths. A situation developed on the submarine that did not make it possible to ensure safe navigation while ensuring the conditions of 'special security' called for by Baltic Fleet Operational Instructions No... The situation was made worse by the unreliable operation of the Pirs-1 receiver display over the Dekka radio navigation system.

"The submarine commander, Captain 3d Rank A.M. Gushchin, did not notify the fleet commander about hitting the floating obstacle and the navigational gear malfunction. At the same time, special navigational measures that could have ensured knowing the submarine's location with the accuracy necessary for accomplishing the mission in the assigned area and safe navigation were not taken..."

"On 25 October, the brigade chief of staff and navigator tried to get a stellar fix in the morning twilight. Due to

incorrect preparation of the sextant, there were large errors in the measurement, which did not make it possible to complete the astronomical problem. No further attempts to determine their location by astronomical methods...

"On 26 October, the decision was made by the chief of staff to approach to within visual range of the Bornholm Island beacons to clarify their location. Not detecting the beacon lights visually due to the poor visibility, they did not use the long-range communication radio, worried about violating the secrecy, and abandoned further actions to clarify their location...

"At 2009 hours, with the onset of darkness, the submarine surfaced to charge the storage battery...

"At 2138 hours, a dark spot about 150 meters in diameter was spotted 200 meters on the port side, assumed to be an 'oil slick'. Actually, this was Danaftet Island, whose elevation was from 0.5 to 1.5 meters...

"After this, the dark spots of islands were detected on the water, also mistaken for 'oil slicks'. At 2150 hours, running on one diesel, the submarine took up a heading of 30 degrees to pass between them. At 2152 hours, it passed 40 meters from Flangsher Island, and the lookout observed breakers ("drift ice at the shore"), but the commander did not react to his report.

"At 2155 hours, the submarine commander adjusted the heading 10 degrees port in order again to pass between 'oil slicks.'

"At 2157 hours on 27 October, proceeding on a heading of 20 degrees and at a speed of about 8 knots, submarine S-363 ran aground on the offshore shoal of Turumsher Island at point 56:04:04N 15:44E. The submarine's actual location was 56.3 miles (104.2 km) from the calculated location on heading 333 degrees."

Here is what was recorded in the watch log of S-363 with respect to the location of the grounding: "Having analyzed the situation, the submarine commander has decided that the submarine is located on Island of Christianso (Denmark)."

Repeated attempts to get underway from the bank were unsuccessful. At 1310 hours on 28 October, the Swedish Navy craft Smege approached the submarine. The representative of the Swedish Navy arriving on the craft, Commodore Carl Andersson, declared that the submarine was located in Swedish territorial waters.

They had ended up not in Denmark, but a bit closer to home. The Swedish officer who arrived from ashore reported the exact location. However, credit for detecting the Soviet submarine does not at all belong to the Swedish military. The submarine was located by a fisherman, Vertil Sturkshe, who had left in the morning to check the nets put out in the evening at Gose-fjord near the Island of Turumsher. The "catch" exceeded all expectations: instead of a fish, he caught a submarine. Returning home, Sturkshe telephoned the Karlskrona Naval Base and announced his finding. The Swedish seamen were no less disheartened than ours.

The chain of events during those days of October 1981 at Gose-fjord initially reminded me of the plot of the Hollywood movie comedy "The Russians Are Coming!" But the Swedish authorities preferred a different variant—the apocalyptic American film "The Day After." And some of the actions and statements by the direct participants in the incident on our side contributed to this.

[1 Dec 92 p 8]

[Text] (Continuation. See No 257 for beginning.)

II.

The news about the grounding of a Soviet submarine at Gose-fjord shocked Sweden.

Stockholm set forth four conditions to the USSR government: the Soviet Union had to offer an official apology; the Swedes had the right to remove U-137 from the shoal themselves and be appropriately compensated for this, and also be authorized to question the commander of the Soviet submarine. Agreement was quickly reached on the first three points. But Gushchin initially categorically refused to give any testimony. And only on 2 November did he depart in a launch for Karlskrona for a "talk." Meetings took place aboard S-363, where Carl Andersson was briefed on ship documents and navigation equipment.

One of us had the opportunity last year to meet with A. Gushchin in Paldiski, where he was stationed at a shore-based subunit. When Anatoliy Mikhaylovich [Gushchin] heard the question about the accident at Gose-fjord, his face blushed and froze over with a stone mask of pain. "I reported everything in writing and verbally to the members of the investigative commission. I cannot add anything new," he snapped.

However, a month and a half later, in January of this year, A. Gushchin appeared on Channel 3 on Swedish television on a program of the popular R. Ashberg. He told the stunned Swedes that he had orders to prepare to blow up the submarine in the event an attempt was made to seize it. Even before that, in an interview for the newspaper AFTONBLADET, the former political affairs officer of S-363, Vasilii Besedin, reported: "The boat would have been broken into bits. Swedish ships also would have been damaged from the explosion."

"I can responsibly say: there was no order to blow up the ship," we were told by Captain 1st Rank Boris Petrovich Shkanov, who in October 1981 held the position of deputy chief of the Western Sector of the Naval Main Staff and at that time was responsible for all types of communications with S-363. This made no sense at all. The circumstances did not call for blowing up the submarine, and no one would have gone for the human casualties.

Thank God things did not reach tragic extremes. After Moscow met all of Stockholm's demands, the submarine was removed from the shoal and expelled from Swedish territorial waters.

But the incident was not closed. The Swedes created a special commission, which handed down a verdict. The

U-137 had intentionally intruded into Gose-fjord. Only one person did not agree with such a categorical conclusion—Commodore C. Andersson, who was directly responsible for the investigation. He reported to the authorities that the Soviet submarine's entry may have been unintentional, but this only irritated his superiors. "The submarine was running on the surface with a diesel operating, but that is hardly how one acts if he wants to sneak into the skerries unnoticed," stated the commodore last year in an interview for the newspaper GETEBORGS-POSTEN. But in the fall of 1981, Swedish journalists were not interested in his opinion.

After the incident with U-137, thanks to the efforts of a number of politicians and the mass media, Sweden was infected with a real epidemic of "periscope disease." Antisubmarine alerts were declared several times a year. Some episodes took on a scandalous notoriety. One year after the "visit" by the "Swedish Komsomolets," in October 1982, a big hunt took place for an unknown submarine in Hors-fjord, which is in the southern part of the Stockholm skerries. This safari was covered by 800 Swedish and foreign journalists. The search was unsuccessful. However, Sweden lodged an official protest against the USSR, informing the world that Soviet mini-subs had penetrated the country's territorial waters.

On 26 April 1983, the Committee on Submarines was formed, which included a then little-known figure of the Moderate Coalition Party, Carl Bildt. He made a successful political career out of the unidentified submarines and became prime minister last year.

But here is the kind of pattern that was revealed: relapses of the "periscope disease" occur most often when they are pushing the defense budget through the Riksdag. Already in 1982, the Swedish military managed to get an additional 600 million kronor. From 1981 through 1992, the admirals and generals of this Scandinavian country received a total of about 3 billion kronor over and above the originally planned appropriations to hunt for the invisible submarines.

British Vice Admiral R. Majoch, who was responsible at the Headquarters of Her Majesty's Navy for antisubmarine warfare and in charge of operations of NATO submarines in the Eastern Atlantic, decided to investigate the submarine problem off the Swedish shores. He shared his thoughts on the pages of the Stockholm newspaper AFTONBLADET. "The campaign being conducted in Sweden concerning the violations of its territorial waters by submarines is farfetched," the admiral emphasized. "When I was in Stockholm, I studied a map of Gose-fjord and concluded that it is highly unlikely that submarine No. 137 was located there intentionally, carrying out some kind of planned mission..."

And the British admiral did not convince the supporters of the "malicious penetration" into Swedish waters by Soviet submarines, although there has not been a bit of proof of their presence in the fjords since 1981. But on the other hand, submarines of the FRG Navy violated the Scandinavian country's maritime border twice, in September

1988 and February 1990. The FRG embassy in Sweden explained the last incident, when submarine U-13 penetrated Swedish territorial waters in the vicinity of Simrishamn, as a "navigation equipment malfunction" and offered an apology to Stockholm. Incidentally, in Norway, where the "periscope disease" raged since the early 1950's, it was as if it was cut off when in November 1970 ships of the Norwegian Navy detected an unknown submarine in Hardanger-fjord and forced it to surface. It turned out to be...French. The Swedes have not yet developed such an immunity.

Every time the Soviet government denied the accusations, but did not provide any evidence of noninvolvement of its Navy in "underwater activities" in Swedish waters. Only after the events of August 1991 was an abrupt change noted in resolution of the problem. On 17 October 1991, the deputy minister of foreign relations of the USSR, Yu. Deryabin, informed the USSR minister of defense, Marshal of Aviation Ye. Shaposhnikov: "There is one 'case' which, as far as I know, we so far have not made an iota of progress in closing. It involves our submarines in Swedish territorial waters... A sort of 'submarine syndrome' has emerged that constantly feeds the image of the Soviet Union as an enemy.

"This 'syndrome' is alive to this day. Our minister has experienced it well during the recent visit to Sweden for talks with the then-prime minister, minister of foreign affairs, and political party leaders, including C. Bildt, who is now the head of the Swedish government..."

"For our part, it was said that, as in other cases like this, we plan to act as openly as possible without concealing the sins of the past, if, of course, there were any. In our view, this is the most reliable path to trust and normal relations..."

"We are asking you, Yevgeniy Ivanovich [Shaposhnikov], to instruct that archival and other materials be checked in order to ascertain the truth in this case involving our submarines entering Swedish waters..."

On 19 November, Fleet Admiral I. Kapitanets reported to Ye. Shaposhnikov: "Following this incident (October 1981—Author's note), a number of measures were conducted in the Navy to totally preclude such incidents. Thus, our submarines are prohibited from approaching closer than 50 km to the outer boundary of Swedish territorial waters or closer than 14.5 km in the vicinity of Gotland Island. The Navy is following these instructions firmly... The commander of the Baltic Fleet has proposed conducting an official visit with the command authorities of the Swedish Navy to reach a mutual understanding on this issue. However, our proposal has been disregarded... In connection with what I have stated, I think it would be advisable to inform the USSR Ministry of Foreign Affairs that our position remains unchanged and that claims about violations of Swedish territorial waters by Soviet submarines are farfetched and unsubstantiated, and about the willingness of the Soviet side to conduct joint consultations at the expert level to resolve this issue."

The first working meeting of experts of the CIS Navy and the Swedish Navy was held on 28-29 January of this year in Moscow. The Swedish side was headed by an adviser on naval matters to Prime Minister Bildt, E. Svensson; our side was headed by a sector chief of the Operations Directorate of the Main Staff of the Navy, Captain 1st Rank V. Vazhov.

(To be continued)

Commentary on Decline of Russian Navy

93UM0329A Moscow *RABOCHAYA TRIBUNA*
in Russian 18 Dec 92 p 8

[Article by Igor Chernyak, Radio Liberty Air Digest: "The Russian Navy Is Surrendering Without a Fight"]

[Text] Conversion is a valuable thing. But why not carry it out prudently, prepare a plan and protect what can be saved, employing in a well-conceived way something which constitutes the nation's pride and glory and which Western experts—the Americans, for example—value extraordinarily highly? I refer to the Russian Navy, its ships, its personnel, its engineering creativity and its indisputable achievements. This is a subject about which it is painful even for outsiders to hear. What must it be like for those who are actually involved in this drama?

In four years the Russian Navy will celebrate its 300th birthday. A center has been established by edict of Boris Yeltsin to arrange the celebration. But is there anything to celebrate? This is what Igor Chernyak has to say:

For the first time construction was not started on a single combat ship in Russia in 1992. Existing ships are breaking down one after another. Most of the vessels are laid up in harbors due to a shortage of fuel and lubricants. Many military men consider what is happening to be equivalent to the defeat at Tsushima.

Baku, Krasnovodsk, Liepaja, Riga, Tallin, Kerch, Odessa and Sevastopol are now foreign ports. The new basing facilities cannot compare with those.

The situation is extremely difficult at Russia's shipbuilding plants. The Murmansk plant is talking of laying off 3,000 workers, for example. Skilled workers are leaving, and it takes decades to train new ones.

Since Ukraine took over five shipbuilding plants, including the one at Nikolayev, Russia has had practically no facilities for building and repairing ships. As a result, in the Pacific Fleet one of the flagships of the Russian Navy, the heavy aircraft-carrying cruiser Minsk, only 15 years old, has been towed to a graveyard for military ships because it could not be repaired. In comparison, U.S. aircraft-carriers have been in service since the postwar period. They are just modernized every five years by replacing the electronic equipment and armaments. Russia's three remaining aircraft-carrying cruisers—the Kiev, Admiral Gorshkov and Novorossiysk—await the same fate as the Minsk.

The number of universal submarines has been reduced from 340 to 166 in the past six years. The missile cruiser

Slava, on which Bush and Gorbachev met at Malta in 1989, is in danger of being written off due to a lack of funds. The fate of the missile cruiser Admiral Lobov and a number of others is in danger. Construction has been halted on almost half of the ships already started. Russia will not receive such giants as the control and intelligence ship Pridneprovye, privatized by Ukraine and renamed the Slavutich, or the heavy aircraft-carrying cruiser Ulyanovsk, which is being cut up for scrap metal at Nikolayev. The greatest loss, however, is the Varyag, the construction of which involved 36 ministries and more than 300 plants. In the opinion of Russian experts Russia's loss of the Varyag places not just its prestige but even the future of its navy into doubt.

Our initial experience with disarmament and reduction of the fleet indicates that these are practically as expensive as arming. While it cost 8 million rubles to maintain one written-off nuclear-powered submarine in 1991, it cost 10 times that much in 1992. Another 12 nuclear-powered submarines were recently added to those awaiting "dismantling," as well as 265 former combat ships which, according to Admiral Makhonin, deputy commander-in-chief of the CIS Navy, are flooded and rusting in harbors. They include nuclear-powered submarines with the reactors aboard, a delayed-action mine laid in the environment.

At the same time Russia's industry requires 100 million tons of scrap metal annually. It is almost 20 times less expensive to derive steel from scrap than to smelt it from pig iron.

The general director of the Almaz production association, Korolev, who recently turned over to the Northern Fleet the last Zubr-class hydrofoil landing vessel, recalled the words of Assistant U.S. Defense Secretary Atwood: "It would be cheaper to give the Russian plants 10 billion rubles to convert and be unable to produce such ships than to catch up with Russia in this field." Russia has saved the Americans these 10 billion by halting production of the Zubrs at its own initiative, even though they have no equals in the world today and there is nothing like them even on the drawing boards.

Work has also been halted on a universal nuclear-powered destroyer designated the "Anchar," which also has no counterpart in the world, and a number of other future ships. Nor will the Yak-141, a fighter designed for the Navy which created a sensation at the Bourges air show, go into regular production. An entire trend in aircraft engineering is ending with the halting of work on aircraft for heavy aircraft-carrying cruisers. Work on the world's first search-and-rescue surface-effect vehicle, the Spasatel, is being curtailed. This is in a situation in which the USA is 12-17 years ahead of Russia in the development of a surface-effect vehicle. It was predicted that this vehicle would make a leap into the 21st century in the field of naval transport. There are reports that the Americans are now inviting its designers to work on a surface-effect vehicle for the U.S. Navy.

The navy needs 350,000-360,000 men today. Defense Minister Pavel Grachev recently reported, however, that

the fall military draft was fulfilled by only 28 percent. Because of this one can predict a sharp increase in the workload of the sailors and a deterioration in the servicing of seagoing equipment. Adm Khvatov, commander of the Pacific Fleet, just recently said in a discussion with Russia's First Deputy Minister of Defense Kokoshin, that the fleet could cease to exist as a battle-worthy entity in as little as two years due to problems with retaining seagoing personnel and the officer corps. This is in a fleet which is relatively well off. The situation is worse in the others.

The fact that 30,000 officers and warrant officers are without housing and the paltry material support provided the personnel could produce a situation in which admirals and lower-ranking officers of Russia's Main Naval Staff might be forced to take over the watch.

To all of these troubles yet another was recently added. When Ukraine demanded 2,000 dollars a month for the training of each Russian cadet, it became clear that the Navy would lose four out of 11 schools. While we can survive the loss of the Kiev and Caspian schools, it is more difficult in the case of the two Sevastopol schools. The School imeni Nakhimov was the only one which trained servicing personnel for missile-carriers, and the engineer school was the only one of its kind for training personnel to service the power plants on nuclear-powered submarines.

One could talk a long time also about the terrible state of the huge beacon and marker system, about the mess at the naval depots, as a result of which there have been explosions in the Northern and Pacific fleets, and about the wholesale selling off of naval property. One thing is not clear in this situation: What are the Russian sailors planning to celebrate?

Chernyak Notes Cessation of Nuclear Powered Destroyer Program

93UM0332A Moscow KOMSOMOLSKAYA PRAVDA
in Russian 25 Dec 92 p 2

[Article by I. Chernyak under the rubric "KOMSOMOLSKAYA PRAVDA Investigation": "The Russian Fleet Has Opened Its Kingston Valves"]

[Text]

Ordered to Celebrate!

Four years from now the Russian fleet will celebrate its 300th anniversary. A center for preparing for the celebration has already been set up at Boris Yeltsin's decree, and Gennadiy Burbulis has instructed the heads of administrations to prepare proposals. The round of festivities began in August on Lake Pleshchayevo at Pereslavl-Zaleskiy, where the establishment of the Petrovskaya "Recreational" Flotilla was celebrated on a grand scale. All indications are that subsequent festivities will be even more impressive.

In the meantime Russia's Navy is experiencing perhaps the most difficult and humiliating period in its history. For the first time since the era of Peter I it is undergoing the mathematical process of division instead of multiplying its glory. Furthermore, for the first time ever, construction

was not begun on a single ship in '92, and existing ships are breaking down one after another. Many military experts consider what is happening to be equivalent to the defeat at Tsushima.

The ports at Baku, Krasnovodsk, Liepaja, Riga, Tallin, Kerch, Odessa and Sevastopol are now in foreign territory. The new basing facilities for Russia's Navy cannot compare with them. U.S. nuclear-powered submarines, NATO ships and entire squadrons casually sail near Russian shores, and deck-based aircraft are being employed. None of our new friends even bothers to conceal the fact that this is for intelligence purposes. The Black, Barents and Baltic seas are quietly becoming zones of interest of the USA and the West, and it is only a matter of time before NATO naval bases will appear right under Russia's nose.

An extremely difficult situation has developed at a number of Russia's shipbuilding and repair plants. At the Murmansk plant, for example, there is talk of laying off 3,000 workers. Skilled personnel are leaving, and it takes decades to train new ones. Shipbuilding plants located on the territory of the Baltic republics and most important, Ukraine, have been taken over by them, including the huge plant at Nikolayev, and the Russian Navy is practically without ship-repair facilities altogether.

Here are just a few of the consequences of this. In the Pacific Fleet one of the flagships of the Russian fleet, the heavy, aircraft-carrying cruiser Minsk, has been towed to a graveyard for military ships because we are unable to repair it, although it is only 15 years old. (By way of comparison, U.S. aircraft-carriers have been in service since the postwar period. They are merely modernized every 5 years by replacing the electronic equipment and armaments.) Three of Russia's remaining TAKRs [heavy aircraft-carrying cruisers]—the Kiev, the Fleet Admiral of the Soviet Union Gorshkov and the Novorossiysk, which almost burned up—await the same fate as the Minsk. The number of universal submarines has been cut by more than half in the past 6 years, from 340 to 166.

The missile cruiser Slava, on which Bush and Gorbachev wanted to meet at Malta, faces write-off because of a lack of funds. The fate of the missile cruiser Admiral Lobov and a number of others, formerly the pride of the fleet, is in doubt. Construction has been halted on almost half of the ships already under construction. Nor will Russia receive such giants as the control-and-reconnaissance ship Predneprovye, which has been privatized by Ukraine and renamed the Slavutich, or the heavy aircraft-carrying cruiser Ulyanovsk, on which hundreds of millions have been spent (and which is now being cut up for scrap by talented specialists). Perhaps the heaviest loss was the TAKR Varyag, however, the 21st in the history of the Russian fleet since 1847, in the construction of which 24 ministries and more than 300 plants were involved. In the opinion of the military experts the loss of the Varyag puts not just Russia's prestige but even the future of the Russian Federation's navy into doubt.

Russian vessels are rusting at ship-repair plants in a number of European countries, with a particularly large number in

Bulgaria. (Until recently, ships of the Navy were repaired also in Yugoslavia, Poland, Greece and Tunisia). The repairs were halted due to the cessation of financing. Viewing Russia as an unreliable partner, Bulgaria is establishing contacts with Greece and Holland. We are losing not only a reliable partner but also acutely needed ship-repair facilities. This is doubly troublesome, since repairs at Varna cost less than in other countries but are frequently more advantageous even than at some CIS plants.

Disarmament and reduction of the Navy are unquestionably necessary. The initial experience has shown, however, that they frequently cost as much as armament. And the process is only getting under way. While it cost 8 million rubles to maintain one written-off submarine last year, it cost around 10 times as much this year. Another 12 nuclear-powered submarines have recently been added to those awaiting dismantling. Add to this 265 former combat ships which, according to Adm I. Makhonin, deputy commander-in-chief of the CIS Navy, stand flooded in CIS harbors. Among them are nuclear-powered submarines with reactors aboard. No one needs them. We know, however, that Russia's industry requires more than 100 million tons of scrap metal annually. It is 20 times as expensive to smelt steel from pig iron as to obtain it from scrap metal.

To America—With Love?

Priority programs and projects are being sacrificed to the conversion, and we are laying the groundwork for falling behind even in those areas in which we are ahead today. When A. Korolev, general director of the Almaz PO [Production Association], recently turned over the last Zubr-class hydrofoil to the Northern Fleet, he recalled the words of Assistant U.S. Secretary of Defense Atwood: "It would be cheaper to give the Russians 10 billion dollars in order for them to respecialize and no longer be capable of producing such ships than to overtake Russia in this field." Russia has saved the Americans these 10 billion by halting production of the Zubr at its own initiative, even though it has no equals in the world and there is nothing like it even on the drawing boards.

Work has been halted also on the universal, nuclear-powered submarine code-named Anchar, which also has no equals in the world, and a number of other ships being developed. The YaK-141 fighter for the Navy, which created a sensation at the air show in Bourges, will also not go into regular production. An entire field of aircraft engineering is dying with the termination of production of aircraft for TAKRs. The experts speak with particular pain, however, of the curtailment of work on the world's first search-and-rescue surface-effect vehicle, code-named the Spasatel (the surface-effect vehicle, a cross between a plane and a ship, has a speed of 500 km/h, a flight range of 3,000 km and a carrying capacity of 500 people—I.Ch.). The decision to produce it was made in '89, following the loss of the nuclear-powered submarine Komsomolets. The Spasatel, 60-percent completed, is now being turned over for scrapping. This is in a situation in which Russia has outstripped the USA by 12-15 years in the development of a surface-effect vehicle, which is predicted to make a breakthrough into the 21st century. There are reports that the

Americans are now inviting our designers to work on a surface-effect vehicle for the U.S. Navy, and talks are even now underway.

Something else: In order for the navy to perform its assigned missions normally it needs 350,000-360,000 men. We have succeeded in drafting only 28 percent of those who should have been inducted. They will clearly not replace those being released into the reserve. Because of this one can anticipate a significant increase in the work load on the sailors and a deterioration of the maintenance of the seagoing equipment. The situation is already extremely alarming. In a discussion with A. Kokoshin, first deputy minister of defense of the Russian Federation, for example, Adm G. Khvatov, commander of the Pacific Fleet, said that the fleet could cease to exist as a battle-worthy entity in as little as two years due to problems of retaining seagoing personnel and the officer corps. And this is in a relatively well-off fleet. Things are even worse in others. This is in addition to the difficulties caused by the fact that 30,000 officers and warrant officers lack apartments and the personnel support is deplorable. It appears that admirals and other officers from the Main Staff of the Navy might have to take over the watch soon.

The situation with respect to training specialists is near collapse. When Ukraine demanded 2,000 dollars a month for training each Russian cadet, it became clear that they would have to leave the schools. The Russian Federation's Navy is losing four of 11 schools. While we can survive the loss of the Kiev and Caspian (Baku) VVMU [higher naval schools], the situation is more difficult when it comes to the two Sevastopol schools. The ChVVMU [Black Sea Higher Naval School] imeni Nakhimov is the only school of its kind for training specialists to service all types of missile-carriers. The VVMU [Higher Naval Engineering School] has no counterparts for training specialists to service the nuclear-power plants on submarines. These two fields of modern naval schools were developed over a period of decades.

The Russian fleet's gigantic beacon and marker system—all of the river and ocean buoys, leading markers, floating barriers and the rest—is disintegrating before our eyes. Some beacons date back to the times of Ochakov and have not been repaired in 50 years. In the Pacific region, for example, 20 percent of the beacons and half of the navigational equipment are in need of repairs. All 24 beacons in the Caspian Sea are in terrible condition. Nor is the situation any better on the other seas. There is no money for capital construction or major repairs, no paint, no beacon bulbs and no power sources. No one wants to languish at the beacons for kopecks. No meat has been delivered to some of them in three years, and there is contact with the mainland only once or twice a year. Navigational danger is increasing many times over because of this. Hydrographic vessels could help, but they are anchored at wharfs with no fuel. And they are old. The average age is 40 years on Kamchatka, for example. Knock on wood, but we are on the verge of an era of enormous naval accidents.

Instances of the theft of weapons from naval depots also increased in '92. Is it any wonder? The depots are guarded by old, retired women, and an armed guard is responsible for a site with a perimeter of one and a half kilometers. There is not enough barbed wire, security and fire-prevention equipment or guard dogs, and the pay is paltry. According to Col Yu. Voyevoda, chief of the Baltic Fleet prosecutor's office, the situation with respect to the storage of weapons and ammunition is extremely unsatisfactory. The danger of explosions is increasing many times over. An ammunition dump in a suburb of Severomorsk blew up several years ago, and there was an explosion this year in the Pacific Fleet. Observers predict that the Baltic Fleet will be next. God forbid that their prediction could come true.

Despite the Yalta agreements the situation surrounding the Black Sea Fleet has not stabilized. Russian military experts believe that a unilateral seizure of the fleet by Ukraine is taking place. It is manifested not just in the take-over of five ship-repair plants but also in a new system of housing construction and distribution. It is only for seamen who have taken the oath to Ukraine. "Privatization" of the fleet's technical and medical support systems and its health resorts is on the agenda. Ukraine is taking over the naval infantry and the coastal missile and artillery troops. There is covert recruitment of officers. The politicians of Russia and Ukraine apparently need to meet again.

The Subs Are Tired

One last thing: Until recently the Navy had 62 ballistic missile submarines (PLARB) carrying 940 ballistic missiles with 2,804 nuclear warheads. Thirty-eight of them were attached to northern Fleet bases (Nerpichya, Yagelnaya, Olenya and Ostrovnya), and 24 were assigned to Pacific Fleet bases (Rybachiy and Pavlovskoye). The largest number (18) of submarines are of the Murena class, each of which has 12 launchers and a firing range of 9,100 kilometers. The most awesome, however, are the missile-carriers Tayfun and Delfin. The six Tayfuns, each of which has 20 launchers, carries 1,200 warheads (RSM-52 missiles with 10 warheads). The seven Delfins can launch 448 warheads—like the Tayfun, to a range of 8,300 kilometers.

After Boris Yeltsin and George Bush signed the Strategic Offensive Weapons Reduction Treaty in Washington, the USA retained an impressive superiority in the naval component of strategic weapons, the most powerful and invulnerable. Eighteen of the latest, Trident-class nuclear-powered submarines form the backbone of this force. Russia has only six missile-carriers of this class (the Tayfuns). Most of the submarine fleet of the Russian Federation's Navy are obsolete vessels launched in the '70s (the Navaga, Murena and Kalmar). Most of them are therefore in base or undergoing capital repair.

Naval operations were practically halted at the Navy's former base in Vietnam's Kamranh Bay in '92, and the ships have left the Indian Ocean. Our presence in the Mediterranean Sea and the Atlantic Ocean has been reduced to the minimum. Only slightly more than 20 percent of Russia's submarine fleet is on alert duty today. The military experts believe that even without any agreements this percentage

will be reduced due to the decline of the defense industry, particularly the repair facilities. It is already being suggested that if things continue in this way, Russia's entire strategic fleet could find itself idle by the year 2000.

This has been only a brief list of the problems which have surged upon Russia's Navy. Even this is enough, however, to make one ask:

In this situation just what is the Russian Navy being ordered to celebrate?

CIS: REAR SERVICES, SUPPORT ISSUES

Russia's Civil Defense Chief Interviewed

93UM0256A Moscow VOYENNNYYE ZNANIYA
in Russian No 5-6, 92 pp 20-21

[Interview with S. Shoygu, chairman, State Committee at the Russian Federation President for Matters of Civil Defense, Emergencies, and Cleanup Operations After Natural Calamities: "From Dissociation to Unity"; place and date not given; first paragraph is VOYENNNYYE ZNANIYA introduction]

[Text] The Russian Presidential Edict of 19 November 1991 created the State Committee at the Russian Federation President for Matters of Civil Defense, Emergencies, and Cleanup Operations After Natural Calamities. Appointed chairman of the State Committee was S. Shoygu. Sergey Kuzhugetovich was born in 1955. He graduated from the Krasnoyarsk Polytechnical Institute as a construction engineer. He took part in erecting the Abakanvagonmash, the Achinsk Oil Refinery, and the Sayansk Aluminum Plant. He is married and has two daughters. Following is a discussion the Committee chairman held with our correspondent.

[VOYENNNYYE ZNANIYA] Sergey Kuzhugetovich, what is the background for the creation of a management agency the likes of the State Committee at the Russian Federation President for Matters of Civil Defense, Emergencies, and Cleanup Operations After Natural Calamities [GKChS]?

There are two reasons, in my view. The first has to do with the disintegration of the USSR and of its power and management structures, and the assumption of independence by the Union republics, a move which resulted in the creation of sovereign states on the territory of the former Union. It was natural that each state—including Russia—would follow this up by erecting its own state management structures on a basis of new principles.

Now for the second reason. Until August of last year, enormously large Russia had no integrated organizational structure for preventing emergencies [ChS's] of natural and anthropogenic origin and for executing cleanup operations.

It was true that the republic's previous ministries and departments attempted to cope with this kind of problem, but they did so only in furtherance of their own narrow interests, thus acting disconnectedly. What we had was the kind of situation described in Krylov's famous fable of the

swan, crab, and pike. The time has come to make the change from disconnected efforts to unity.

Also hindering unity of efforts was the situation whereby many protective functions lay within the purview of Union structures existing at the time.

With the above and other factors in mind, Boris Nikolayevich Yeltsin on 19 November 1991 signed the Edict on the Creation of the State Committee at the Russian Federation President for Matters of Civil Defense, Emergencies, and Cleanup Operations After Natural Calamities.

The above provides a clear delineation of our goals. Permit me to enumerate some which I believe are the most salient: Coordination of activities of state management agencies for protecting the population and national property of Russia, and prevention of emergencies, with cleanup in the latters' aftermath on the republic's soil; assurance of the creation of a Russian system of emergency prevention and actions; organization of the development and implementation of incipient state programs dealing with problems of protection during the occurrence of emergencies; provision of leadership for coping with major accidents and natural calamities, with assurance of availability of requisite personnel and equipment; organization of training of the populace in actions to be taken during emergencies; and participation in international activities related to prevention and cleanup during emergencies.

In connection with the above, we are having transferred to us management agencies, institutions, schools, military large units, and units of the former GO SSSR [USSR Civil Defense] located on the soil of the Russian Federation.

The above marks the conclusion of the 30-year existence of USSR Civil Defense as an independent state structure which until August of 1987 followed as its principal activity the preparation of the population and the USSR national economy to exercise protection against the effects of modern weapons. All Russians undoubtedly are aware of Boris Nikolayevich's stating that we no longer consider the USA and other major Western countries to be our adversaries. However, this does not relieve our Committee of its responsibility for protecting Russia's population and economy in the event military actions are unleashed. The point here is that very large stockpiles of weapons have been accumulated throughout the world, and this includes nuclear weapons.

[VOYENNYE ZNANIYA] Please tell us about the Committee's organizational structure and the major efforts it is to pursue in the furtherance of its goals.

[Shoygu] The structure reflects the Committee's cardinal activities. This is all treated in detail in the statute on our Committee. For this reason, my reply will be limited to a brief explanation. I will start with the Main Administration for Civil Defense Matters. It consists of three departments. The largest of the latter is charged with assurance of population protection in emergency situations in times of both war and peace.

The System Analysis Independent Department is responsible for coordination efforts related to the creation and

continuing development of the Russian Emergency Prevention and Action System [RSChS], prediction of possible dangers and aftermaths of emergencies, and the creation and improvement of information systems, communications, and provision of data to the RSChS. Responsibility for the development and implementation of Russian GKChS technical policy in the area of prevention and cleanup after emergencies falls to the Scientific and Technical Administration.

The principal function of the Finance Department is financing and technical provisioning of the Russian Emergency Prevention and Action System.

The Emergency Prevention Department is to organize and coordinate activities of ministries and other departments, concerns, corporations, and organizations in Russia, and of regional centers of our Committee, in the resolution of problems related to industrial safety and survivability of industrial, power, and transportation facilities.

I think there is no need to explain the purpose of the Administration Department. There are from 40 to 50 specialists in each department.

We have small but important independent subdivisions: the State Committee Inspection, External Affairs Section, Operational Service Section.

In addition, control of military large units and units at the GKChS is to be effected via the Russian Federation GO Troops Staff.

[VOYENNYE ZNANIYA] The publication's readers would like to know the following: Exactly what are the regional centers that are directly subordinated to the Committee, and what are their functions?

[Shoygu] There are nine of them. I remind the readers that they are located in Moscow, Saint Petersburg, Rostov-on-Don, Samara, Yekaterinburg, Novosibirsk, Krasnoyarsk, Chita, and Khabarovsk. Their purpose is to coordinate the activities of territorial state management agencies in the interests of preventing emergencies and dealing with the latters' aftermath on the included territory.

Their functions number quite a few. First, they are to create on the territory of a region structures of the Russian Emergency Prevention and Action System; second, coordinate and oversee in regions measures related to prevention of emergencies and population protection from the latter, while furthering the survivability of national economic facilities; third, organize and oversee the conduct of rescue, restorative, and other immediate operations; fourth, assure a high degree of mobilization and combat readiness of GO troops, with organization of command staff specialized training for management agencies and personnel of territorial subsystems and elements of the RSChS.

The regional center is granted substantial rights, foremost being overseeing the work of territorial management agencies, enterprises, institutions, and organizations of the region, as specified in the area of responsibility with which the GKChS is charged.

Functioning in the centers are the latter's own State Inspection Offices, which in the particular territory exercise oversight over implementation of measures related to emergency prevention and cleanup on the part of all administration and management structures, facilities, public organizations, and all citizens.

[VOYENNNYYE ZNANIYA] Are there any plans for local reorganization for GO emergency committees and staffs?

[Shoygu] We feel that the KChS commissions located at many territorial and departmental subsystems of the RSChS being created are upper management agencies. This, in spite of the fact that there is no legislation requiring that such commissions be formed. For that reason, we do not exclude the possibility that autonomous elements in the Russian Federation which possess a high degree of independence may come up with new organizational structures that will completely satisfy local requirements.

Concerning GO staffs, the latter are being transformed into staffs dealing with civil defense, emergencies, and cleanup after the occurrence of natural disasters. They in essence are agencies exercising day by day local management of the RSChS.

[VOYENNNYYE ZNANIYA] Do you believe that it is necessary to formulate a state program for assurance of population survivability in areas of Russia in which large chemical works and nuclear power plants are located and for transportation of hazardous materials by rail?

[Shoygu] There is no question about it - a long-term program or set of regional programs is essential. It is this kind of program that can implement most fully the Russian Federation policy on emergency prevention and management. However, we must not lose sight of the fact that local special-purpose programs, in light of broad use of hazardous and especially hazardous technologies and materials, do not address all aspects of the problem of prevention and abatement of emergencies, particularly the kind that affect adjacent and even distant areas. The Chernobyl tragedy is a case in point. What is required is an integrated approach.

We consider that an essential and most requisite step in the preparation of a unified program is the creation of a scientific and technical program and a technical and economic program. We have already taken action in this regard. Adopted last year, in a joint effort with the Russian Academy of Sciences, and with science, higher schools, technical policy, and other ministries, and with departments and organizations, with coverage of Russia's interests, still within the framework of the former Union, was the State Scientific and Technical Program for Population and National Economic Facility Safety with Consideration of Possible Occurrences of Natural and Technical Disasters. Undergoing implementation is the Russian GKChS plan for scientific research and experimental design work for the coming year. Plans call for carrying out more than 120 pieces of research and approximately 30 works dealing with the resolution of problems related to predicting and preventing emergencies and preparing territorial forces,

national economic facilities, and the associated personnel and equipment for the assumption of rapid and effective actions.

[VOYENNNYYE ZNANIYA] Sergey Kuzhugetovich, many countries have laws setting the extent of responsibility levied on officials for maintaining production safety, environmental cleanliness, and training of personnel for dealing with accidents and natural disasters. Do you have any plans of that sort?

[Shoygu] We are obligated to do our utmost—in the shortest possible time—to do away with manifestations of legal nihilism with respect to legislative assurance of protection of Russia's citizens and national assets from harm caused by an emergency.

Experience gained by foreign countries in legal effectuation of industrial and ecological safety is especially valuable for us now, a time when a market economy is being established in the Russian Federation. Our Committee is interested in accelerating the formulation of a system fostering associated legislation. This work is being carried out in close cooperation with the Subcommittee on Emergencies of the Russian Supreme Soviet Committee on Ecology. Constitution of high-priority legislative bills is proceeding at a rapid pace. Foremost in this regard—the very foundation, so to speak—is Russian Federation basic legislation on population protection or safety on the territory of Russia. The draft is to be refined at a later time.

In progress are draft laws dealing with rescue service and status of rescuers. Plans call for the preparation of proposals and variations of draft legislation on industrial and transportation safety, measures related to protecting the population, large cities, and populated areas in emergencies, and rights of Russia's citizens, state agencies, and public organizations of obtaining accurate and complete information on emergencies and on the possibility of occurrence of the latter. Preliminary work has been initiated on a draft law on state reserves to be employed in cleanup operations following the occurrence of accidents and natural calamities, including survivability of the population.

We can see from what I have said that the Committee is working at full speed, with a great deal of work to be done. Nonetheless, managers of an element such as the city-rayon-facility are at a loss as to what they are to do. They are to work on tasks related to production survivability, prepare personnel and equipment for action under emergency conditions, and train people to function and take part in cleanup operations in the aftermath of accidents and natural calamities. We already possess experience in accomplishing this kind of work; we are familiar with the requisite procedures. The forthcoming guidance documents will furnish the framework for including everything into the planned activity of the Unified Russian Emergency Prevention and Action System.

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INTERREGIONAL MILITARY ISSUES

Russian Troop Watch in the Baltics

934K0559A Tallinn *THE BALTIC INDEPENDENT*
in English 26 Feb-4 Mar 93 p 3; 5-11 Mar 93 p 3

[Article compiled by Lya Oll]

26 February-4 March

[Text]—Russian troops in the Baltic States can cause major social upheavals, according to members of the Reform in the Army group of deputies of the Russian parliament visiting army units in Latvia, referring to dissatisfaction with the parliament, the president and the defence minister, and large-scale corruption among the military leadership. According to their estimation a total of about 200,000 Russian troops are still stationed in the Baltics (February 22).

—Russian air force planes continued unauthorised flights in Lithuanian airspace: one flight was registered on February 9; eight flights on February 10; forty on February 11; thirty-five on February 12-13; twenty-four on February 16-17; fourteen on February 18-19; sixteen on February 19-20.

—Lithuanian police detained a Russian army soldier of unit No. 62 414 for drunken driving in Siauliai, northern Lithuania (February 11).

—Russian-Latvian negotiations should focus on developing specific inter-governmental agreements on the withdrawal of Russian troops from Latvia, head of the Russian delegation Sergei Zotov said on February 22. The agreements should include social guarantees not only for withdrawing troops but also for retired officers and civilians permanently residing in Latvia. The agreements will be one of the conditions for the resumption of the troop pullout halted by the Russian president on October 29 last year.

—The Latvian parliament's defence committee condemned the recently-adopted Russian law on additional guarantees and compensations to Russian troops serving in the Baltic States, Transcaucasia and Tajikistan, which the committee members called "an interference into domestic affairs of another country" (February 18).

—Lack of withdrawal schedules is the main factor hindering the normal pullout of Russian troops from Latvia, according to the head of the Latvian bureau overseeing the withdrawal, Ilgonis Upmalis. Without the official withdrawal schedule it was impossible to fix the temporary status of the troops in Latvia, or allow the intake of additional personnel to help with the withdrawal of equipment (February 19).

—Latvian authorities recorded seven unsanctioned flights by Russian airforce planes on February 16 and two flights on February 18.

—Between February 18 and 21, eleven Russian army officers and eight soldiers in eight separate instances

attempted to enter Latvia by train without proper permission and were sent back by border guards from the Zilupe checkpoint.

—A court investigation has been called to study the legality of two metal-trading companies operating on the territory of the former Russian naval base in Riga (February 19).

—Estonian border guards at the Murati checkpoint in southern Estonia detained a Russian serviceman from the Latvian town of Aluksne who tried to smuggle arms into Estonia (February 13).

—Estonian border guards near Meremäe, southeast Estonia, stopped a Russian army truck with eight armed soldiers which had crossed into Estonian territory. The captain in command of the troops claimed they had lost their way in the dark and after giving a written statement let themselves be shown back to Russian territory (February 18).

—The Estonian border patrol escorted the Russian navy support vessel KIL-29 out of Estonian territorial waters on February 18. The ship had attempted to enter the port of Tallinn without a proper permit. When Russian navy authorities the next day requested an entry permit for the vessel from the Estonian Foreign Ministry, it was denied them.

—Sweden has promised to call on Russia to allow foreign experts to examine the nuclear reactors in the Russian naval base of Paldiski in northern Estonia, and to assist Estonia in defusing mines and explosives left behind by withdrawing Russian troops (February 20).

—Most of the buildings and facilities of the Russian air base at Haapsalu, northwestern Estonia, have been handed over to the Estonian authorities although the date of signing the final handover documents has not yet been set (February 22). The premises are guarded by units of the Estonian voluntary Defence League.

—The Russian navy transport vessel *Shuya* entered the port of the Russian naval base of Paldiski on the northern coast of Estonia without permission (February 22). The Estonian Foreign Ministry has sent a protest note to the Russian Ambassador in Tallinn.

[5-11 March p 3]

[Text]—Russia's Baltic fleet will be cut by almost 40 per cent, fleet commander Admiral Vladimir Yegorov said in an interview with the Russian army daily *Krasnaya Zvezda* on March 2. He said that a brigade of outdated missile submarines, which form the backbone of the 240-warship fleet, would be scrapped this year.

—The Lithuanian delegation for talks with Russia gave its approval to the agreement on the transit through Lithuanian territory of Russian troops leaving Germany, according to the Lithuanian Foreign Ministry (February 24).

- Lithuanian authorities registered 47 unsanctioned flights by Russian air force planes in the Lithuanian airspace between February 23 and March 1.
- Lithuanian border guards detained two Russian army warrant officers from army unit 211807 travelling without permits in the Kaliningrad-Kharkov train (February 22).
- Lithuanian police in the town of Siauliai, northern Lithuania, detained a drunken and disorderly captain of the Russian army from unit 06935 (February 28).
- Russian air force planes continued unauthorised flights in Latvian airspace: five flights were registered on February 24; six on February 25; one on February 26 and 27.
- The Russian submarine B-807 left the port of Liepaja on the western coast without an exit permit from Latvian authorities (February 26).
- A patrol of the Latvian Home Guard stopped a Russian army armoured car in a suburb of Riga. The commanding officer in the car refused to provide a permit or give any explanation where they were headed and finally the car drove off to army unit 694222A (February 28).
- Between February 21 and 28, Latvian border guards of the Zilupe checkpoint detained 11 Russian offices and servicemen while, on separate occasions, tried to enter Latvia without a permit by the Moscow-Riga train.
- The Russian Embassy in Tallinn informed the Estonian Foreign Ministry that between February 25 and May 25 three Russian air force planes a week will be landing on the Tartu military airfield to evacuate army equipment (February 22). The Foreign Ministry has asked for further specification on the flights before it considers the request.
- The Estonian government introduced new rules for the border crossing of Russian troops on February 25. Under the new rules, the entry of new additional troops "to facilitate withdrawal" will be decided by the government; permits for Russian military aircraft and ships can be issued only by the Foreign Ministry upon requests submitted through the Russian Embassy five to 12 days in advanced.
- Two Russian air force IL-76 planes landed on the Tartu military airfield without proper permits and were sent back to Russia by Estonian border guards (February 26).
- The company Maves, commissioned by the Ministry of the Environment to study Russian oil pollution at the ex-Soviet airfield of Amari, estimates that an area of 19.3 hectares is contaminated with oil (February 25).
- Estonian rescue workers managed to clean up most of the 2-to-3 tonne oil spill at the Russian Paldiski naval base, 50 kilometres west of Tallinn. The pollution was discovered by an Estonian border patrol on February 27. The spill is believed to have been caused by the Russian navy scuttling their torpedo launches in the harbour area.

- Some 5,900 Russian troops are stationed in Estonia, according to chief of the Tallinn garrison, Admiral Yuri Belov, who disclosed the figure during a meeting with the Estonian president, Lennart Meri, on March 1.
- In the last six months approximately 5,000 Russian troops, 40,000 tonnes of various equipment, and 5,500 vehicles, including 100 tanks, have been taken out of Estonia, according to the Estonian Defence Ministry (March 2).

UKRAINE

Procurator General on Legal Aspects of Army Creation Process

93UM0285B Kiev URYADOVYY KURYER
in Ukrainian No 56-57, 27 Nov 92 p 12

[Interview with Major-General Justice Vasylyy Ivanovych Kravchenko, Deputy Procurator General of Ukraine, by URYADOVYY KURYER correspondent Oleh Oliynyk: "The Law is Also the Law in the Army"]

[Text]

[O. Oliynyk] Vasylyy Ivanovych, a year has passed since the Armed Forces of Ukraine were created. Their emergence has naturally not been easy, and they bear all of the distinctive features of the former army, but the process is taking place on an entirely solid legal foundation, and that gives the hope of overcoming the difficulties. What is your opinion as a military legal scholar: what is most distinctive in the standard documents pertaining to military organizational development in Ukraine?

[V.I. Kravchenko] I would note first and foremost the tendency toward democratism and humanity in them. Our legislators worked a great deal on them, so that the law would finally protect both the interests of the state and those of the individual. For example, believers in certain faiths have for the first time been given the right not to bear arms or enter the army; they have the opportunity of performing alternative service. A draftee may, for the first time, appeal the decision of a military commissariat in court before his call-up. The category of individuals that receives a deferment from service or is released from it altogether is large.

The law "Universal Military Obligation and Military Service" is even ahead of its time in some things, and certain of its norms are thus quite difficult to get used to: for example, the release of a serviceman from further completion of service in the event a situation arises that gives the right to a deferment. The law allows this to be done, but in practice the commanders have no one with which to replace the soldier on guard duty or on a crew. There is a provision for indirect actions in the law, pertaining, say, to discharge into the reserves due to family circumstances. The list of those has to be prepared by the Cabinet of Ministers, but people are already demanding that this norm take effect immediately. The bodies of military administration have been endowed with a series of privileges for the wives of servicemen, but the Code of Labor Law envisages an extensive system of social guarantees for

the wives, so the law is in need of refinement. As is, by the way, the process of the discharge of soldiers on conscript service from the ranks of the Armed Forces. The way it is now, after all, is that the soldier kisses the Battle Banner, receives his documents and that is it, he is removed from the unit rolls. It sometimes takes several days for him to get home, and if something should happen to him during that time, God forbid, it is not clear who would then be responsible for it. A problem about which the legislators should also think some.

[O. Oliynyk] But the law is the law, while the reality of life often diverges from what is written on paper.

[V.I. Kravchenko] That is so, unfortunately, and we must verify that the overall hopes for the new legislation as an important factor in reducing the number of offenses among the troops have not yet been justified. Here are the statistics for the first nine months of 1992: the overall quantity of crimes in the Armed Forces of Ukraine has increased by 60 percent compared to the same period for the last year.

We are especially troubled by instances of evasion of service, which have almost doubled. These are both desertion and self-injury. Add to that 1,842 people who did not appear last spring at the draft stations. There are various reasons here, of course, but the military commissariats sent materials on 700 of them to legal bodies.

[O. Oliynyk] How are things with "hazing"?

[V.I. Kravchenko] There are no grounds for complacency here either. Violations of the rules of regulation relations have increased by 33 percent. Some 71 cases of beatings of soldiers by seniors in rank, including by officers, have been noted.

[O. Oliynyk] Many are also talking today about the plundering of military property, especially weapons...

[V.I. Kravchenko] We relegate such crimes to the category of mercenary, since weapons can be sold right away and monitoring of their storage has weakened, while the temptation also frequently arises to improve one's material standing by criminal means. Some 62 cases of the theft of firearms, right up to shells and missiles inclusive, have been recorded. One recent example—no more or less than 60 non-guided aerial rockets were stolen on October 13 in a unit of the Odessa Military District. Criminals stole several automatic weapons from a dump in the Crimea. They broke an opening in the wall, and grabbed whatever they wanted. It is a good thing that they were able to find the perpetrators in efficient fashion, while the trail was warm (they turned out to be a group of teen-agers), but the commander had already been warned of the necessity of improving the state of weapons storage. The reaction on his part—he posted a sentry, who did not even see the insecure zone.

The General Procurator of Ukraine made a presentation to the Minister of Defense pertaining to ascertaining and eliminating the causes of weapons theft. The document was discussed at a collegium, and the corresponding orders were issued for its fulfillment. The weapons are naturally

not stolen to go hunting, so there cannot be any leniency in this matter. Although we are aware that discipline today has dropped to critical levels everywhere in society, and we still have plenty of work to do.

Six criminal cases have now been brought for instances of the illegal sale of hardware and property. Highly placed officials and senior officers usually figure in this, as a rule. The commander of a unit at the Uzhgorod garrison, Colonel S., was trafficking in unregistered motor vehicles. Two other colonels illegally sold property for half a million rubles. The "businessmen" in shoulder boards had hidden property in the amount of three million rubles.

Summing up this topic, I would like to emphasize the necessity of strengthening control over the storage and accounting of military property and equipment. The exactingness of some commanders toward themselves and their subordinates is too low, and a careless attitude toward regulation requirements is, as before, a precondition for committing a crime. Matters have reached a point that we are encountering instances where a shortage of weapons or something else is not revealed at once, but by chance, after a certain time. It is, of course, very difficult to begin a search afterwards.

[O. Oliynyk] Vasylyy Ivanovych, like it or not, we have to raise a topic that is quite dramatic. People are dying in our army in peacetime. This, of course, is having a negative effect on society and causing unjustified losses to the families of those who are killed. How is the situation among the troops shaping up today, and what are commanders and military jurists doing to see that these losses are as few as possible?

[V.I. Kravchenko] Whatever figure you cite here, each one who came into the army young and healthy and did not return is painful. This year we had so-called non-combat losses of 267 servicemen. Some 158 cases were various types of accidents operating vehicles, road-transport accidents and so forth. The other 109 were cases of crimes against individuals. The overall number of non-combat losses has decreased compared to 1991, and we should give due credit here to the efforts of Minister of Defense Colonel-General K. Morozov, the representatives of the higher command corps and the commanders of the units and subunits, but such cases are for all of us a topic of special investigation that is monitored directly by the General Procuracy. We have to do everything possible to see that the mothers of soldiers cannot reproach us that we did not establish the truth, that we did not punish the guilty.

Although, to be objective, there are also instances of irresponsible attitudes by soldiers to their duties and to the rules of technical safety, or even simply a lack of common sense: some soldiers went off on their own, got themselves drunk, and when returning to the unit one of them fell and passed out on the frozen ground. When they sobered up, the went looking... Try and explain to the parent who is to blame.

The number of suicides has declined somewhat; there were a total of 50 of them over the first three quarters. One

could, of course, limit oneself to trite commentary here, saying that the army is the same as society, but we need to recognize that a youth is frequently left alone with his problems under army conditions, and an officer, warrant officer or NCO cannot always determine the psychological condition of his subordinate objectively—he has no special knowledge, or else there is simply no time to talk with the youth in private. Just don't put him on watch, don't put a gun in his hands, you see, and things will work out, the crisis mood passes.

[O. Oliynyk] There is a socio-psychological service in the Armed Forces today...

[V.I. Kravchenko] Yes, it is simply essential. The army is a concentration of individuals and personalities. A person at a young age is very dependent on external circumstances, and the military psychologist should be working side by side with the commander. Not a political officer or chaplain, but a trained expert in human souls. Almost one in every five crimes in the army, after all, is by an organized group, that is, there was prior agreement, criminal intentions were put forward. Most of them could have been prevented if someone whose head was not filled with combat training, details and watches was working with the people.

[O. Oliynyk] Everyone can complain some today about difficulties at work. What does military justice have to say on this score?

[V.I. Kravchenko] We have troubles enough ourselves, of course. But the main thing is that the future of the system of bodies of justice in the Armed Forces is quite uncertain. It still retains its authority, but a conceptual framework for its conversion to civilian status is already being developed, and the army will have to be under the tutelage of the territorial general civil procuracies in a juridical regard. That prospect is scaring away many of our staffers, and some of them are aspiring to leave the service at once already. And then we will suffer personnel losses, and the burdens on those who continue to perform their duties will increase. We have only 100 military investigators in Ukraine. They are often forced to handle up to 15-20 cases simultaneously, including some grave crimes. Hence efficiency is low, when we cannot finish a case on time. The investigator moreover essentially has no assistants and conducts the investigations himself, from start to finish.

I feel that now is the time to create a special military police that would be able to take upon itself a certain portion of the cases of legal offenses in the Armed Forces.

National Guard's Progress After First Year Eyed
93UM0285C Kiev URYADOVYY KURYER
in Ukrainian No 56-57, 27 Nov 92 p 12

[Article by Vira Valerko, NGU Press Service correspondent, under the rubric "The National Guard: Steps in Emergence": "Are All Methods Good Ones?"]

[Text] Specialists assert that the first years in the life of a person are the hardest. But also the most complicated at

the same time. It is namely then that the child learns more than in all the rest of life. And sustains its share of bumps and bruises.

Well then, all of this could also pertain fully to the new military formation that was born toward the end of last year—the National Guard of Ukraine [NGU]—especially with regard to the bumps and bruises.

The Ministry of Defense of Ukraine, having announced cutbacks in its ranks, however, has monopolized all military garrisons and schools that used to belong to the USSR Ministry of Defense, and did not leave the Guard even the least hope of getting them. The conditions created for the development of the NGU were thus extreme from the very beginning. The parents let their child out into the world "in what they were born in," blessing it therein for great and important matters. And it must be honestly admitted that the child, left to the mercy of fate, proved to be extremely quick-witted and clever.

Understanding that it must fight for life, the National Guard set about the fulfillment of the obligations envisaged by the Law of Ukraine "The National Guard of Ukraine" from the very first days of its existence. Having neither house nor home, figuratively speaking, it was able to acquit itself in the best possible way over a comparatively short period of time. The Guard is credited with hundreds of criminals and violators of public order detained, dozens of crimes averted and a large quantity of lives saved. The manpower of the National Guard was redeployed to a special-regime zone at the border with Moldova at the first signal to render aid and assistance to the border troops. Close to three thousand Guard members were activated for this purpose. Dozens of violators of the state border of Ukraine were detained as a result and, most importantly, a large quantity of weapons was confiscated.

This small excursion into the recent past of the National Guard was not for the sake of effect. Its difficult material and technical state, in the face of undeniable successes in service and the irreproachable fulfillment of all obligations, cannot help but be troubling. It is also not known how long it will have the rights of an unloved stepdaughter. Suffice it to say that the Chief Directorate of the NGU does not have its own accommodations to this day. But it remains a one-sided game. And history, unfortunately, is repeated.

The National Guard of Ukraine quite recently set about performing a new task that is envisaged by the corresponding law—protecting the diplomatic and consular missions of foreign nations on the territory of Ukraine. The capabilities and excellent training of the Guard members were also revealed to the full here. The first August night brought an unpleasant surprise to the guards of one of the foreign missions. A stranger—a strong, athletic-looking man—tried to get onto the grounds. The Guard members has a great deal of trouble that night. Realizing that he had not been able to remain undetected, the perpetrator decided to play the role of a drunk; he tore away from the guards, demonstrated his profound knowledge of profanity and tried to offer resistance. The guards

acted in clear-cut and harmonious fashion, and after just a few minutes the uninvited guest was taken by a police detail.

This type of violation cannot be avoided, of course, and well-trained professionals will be needed in order to fight them properly (and the embassies and consulates will be guarded exclusively by officers and warrant officers in the future). There are unfortunately no bases for training them today. The formation of a special unit to protect diplomatic missions in Kiev has begun. But the question of their quartering remains up in the air. The military garrison given to the National Guard by the Ministry of Defense of Ukraine has a standard capacity of 300 people, and meets only 30 percent of needs. There is neither a motor pool nor storage facilities. All attempts by the Guard to remind the higher authorities of its problems have fallen on deaf ears. A construction battalion of the Ministry of Defense of Ukraine, on the other hand, has moved to the comfortable military garrison of the former Construction Directorate of the Ministry of Defense of the USSR Armed Forces.

Ascetic methods of education doubtless have their attraction, but the issue is the image of a young state, whether it is wise enough to support a child that is just getting onto its feet and asking that state for protection. Support it, and not throw it into the rapids themselves, guessing whether it will swim or not...

Need for Upgraded Air Force Training Explained

93UM0285A Kiev NARODNA ARMIYA in Ukrainian
2 Dec 93 p 1

[Article by Major-General of Aviation (Reserve) Mikola Poluyko, a member of the organizing committee of the congress, under the rubric "Building the Armed Forces: Experience, Problems, Prospects": "The Flight Schools Find Themselves in the Bonds of Departmental Restrictions"]

[Text] *A grave situation has taken shape with the formation of the pilots' institute of the Air Forces. The Air Forces command of Ukraine and the 17th Air Army are ignoring both the decree of the Cabinet of Ministers and the order of the Minister of Defense of Ukraine to reform the system of military education. They are blocking the decision of the chief of the directorate of military education by every means, and the dual control that is envisaged in the transitional period has only worsened the problem.*

What is going on here? As an old aviation school hand who has devoted almost his entire life to the training and educating of military pilots, it is very painful for me to see how flight education, finally set free from the bonds of incompetence, departmental stagnation and hackwork, is perishing under ambitious intentions.

Opponents of reforming the system of military education put forward as the sole argument for not accepting the new approach to organizing the training of military specialists the fact that the system suited everyone fine for decades, trained the cadres, not all that badly—they were "indomitable"—so why change it? We will try to investigate this.

The officer cadres, including flight cadres, were trained, and the quality of their training does not evoke any doubts. Famous pilots and aviation unit leaders have come out of the flight schools. The commander-in-chief of the Air Forces was himself at one time trained at the school, and not without the participation of the author of these lines, by the way. But General V. Vasilyev should be aware of the losses that have accompanied both the training of cadets and their later military and political training, how many pilots have died in crashes "through the fault of the personnel," how many aircraft have gone into the ground together with the lives of people and billions of the peoples' funds.

The author, with no little experience in investigating a host of flight accidents, has repeatedly been persuaded that the principal cause of crashes and accidents through mistakes in piloting techniques, the servicing of the aircraft hardware and the organization and supervision of pilots is the regrettable incompetence of the flight personnel and the supervisors of flight training. And it is not only young pilots who err. One can cite lots of examples where experienced and, by our standards, competent pilots have erred and died. Suffice it to recall a quite renowned and well-known commanding general of an Air Forces district, who bailed out of a supersonic aircraft that had gotten into a failure mode during the execution of aerobatic maneuvers, or a deputy commanding general of an Air Forces district, who hit the ground while demonstrating aerobatic maneuvers over the airfield, or the commander of an air training regiment who was executing a "hook" after break-away and turned up. But can one really list them all? It is obvious, after all, that the pilots were not suicides; they made mistakes through the lack of a profound knowledge of the aerodynamics of the aircraft they were flying, first and foremost.

A saying exists that one can teach a bear to fly. Possibly. He can ride a motorcycle. The question of the educational level of the flight personnel did not used to be posed so pointedly—he only needed natural gifts. But modern aviation, which has great sophistication in complex equipment and a broad range of applications, requires fundamental and lasting knowledge, abilities and skills. The cost of training a pilot is moreover quite high, and his improvement and maintenance at constant proficiency requires the spending of funds.

The demands for the level of education and qualifications have clearly come into contradiction with the existing structure of flight training today. It is impossible to set new educational and skill levels for state and educational standards—the necessity for which no one can object to today—within the framework of the old structure. No one is admitting any deception with the diploma of "pilot-engineer" today. But diplomas for higher education are given, after all, only to those who have completed a higher educational institution which has been issued the corresponding license and certificate by a state body for accreditation. The program for training the flight specialists will be subjected to expert analysis, and if it does not provide a certain level of education, a certain amount of designated

disciplines, it will not obtain the right to such a diploma. And to achieve the level of a base higher education—a bachelor's (and we would emphasize that this is not full higher education) requires that a cadet complete a designated set of disciplines in the amount of more than 7,000 hours. That takes no less than four years. And if these are only theoretical disciplines, when will they be flying? You can't train a pilot only theoretically, after all. Here is where a structural restructuring of the flight institute should come to the rescue, closely linking theoretical, at the first level, and practical training of the future pilot.

A radical change is needed, first of all, in the approach to the basic training of flight matters. Why is the instructor pilot, that unique and subtle pedagogue, who is teaching perhaps the most difficult of professions, not recognized as a teacher? Absurd. The instructors at the dawn of aviation in France used to be called professor. And that is right! The instructor, after all, not only flies with the cadets, but also holds classes with them on various questions that are connected with flights. He also conducts ground, preliminary and pre-flight preparations with the cadets, guided by a knowledge of pedagogy, psychology and the techniques of flight training. It is another matter that sometimes his pedagogical activity is sometimes belittled, reduced to hackwork, since time is always lacking to train him to the level of a pedagogue, or he is trained in an amateurish fashion at the level of his own flight or squadron. It also happens that a pilot who has only just left the school desk comes to teach cadets and reaches pedagogical wisdom and instructional mastery by the method of trial and error, taking his lumps. How costly those errors are!

The question has long been posed of granting flight-instruction personnel the status of instructors, with all of the consequences that arise therefrom. It is necessary that this instructor of flight theory and practice or weapons delivery himself take classes in practical aerodynamics, the theory of aerial firing, aerial navigation... and unite that knowledge with practical application in the air. We have become so accustomed to the fact that a pilot may not have a high educational level that practical aerodynamics—that is, a discipline that trains the pilot in how to fly—is to this day taught by an engineer who has not once been in the air. These engineers may have sound knowledge, but nonetheless... It is a paradox: the pilot can fly, but he cannot explain this or that phenomenon that occurs in flight; the engineer instructor, on the contrary, talks about the phenomena but sees them only in diagrams. A mistrust thus psychologically arises in the cadet in such theoretical training, with a negative effect on the quality of the training. It is natural and logical, you see, that the cadets and pilots know theory badly, while training is replaced by cramming that is expressed in large material expenditures and does not adequately ensure the safety of the pilots.

Here, I think, it would not be superfluous to say a few words about science as well. It is a rare thing if a pilot has defended a dissertation at the level of candidate of sciences, not to mention doctor. They would perhaps even laugh at a pilot who had done such a thing. So it turns out that the most complicated matter—flying—is left without

scientific accompaniment. It is difficult to name even one supervisor of the Air Forces who had been a scholar in the realm of flight matters. We are not talking about those scholars who have received a science degree at academies after leaving flight operations, or during a period of occupying high posts with the aid of grateful subordinates. A monopoly thus takes shape of poor literacy, incompetence and superficial supervision in flight matters.

Second, it is clear that not everyone who wants to can study flying, or the more so be the pilot of a modern aircraft. Approximately 30 percent of cadets who have even successfully completed professional selection do not finish the school and drop out. These are people who have suffered particular tragedy and have spent their time in vain. And what funds have been expended!

The new concept for the structure of the flight institute makes it possible to ease considerably the process of re-orientation to another profession. In the first year, when the motivational level is realized, all cadets are trained without subdivision into the future professions of pilot, navigator or air-traffic control officer. The cadets are divided in subsequent courses into the particular groups of pilots (all types of aircraft), navigators and air-traffic control officers. The remaining differentiation of the cadets into pilots and navigators by types of aircraft and helicopters and the air-traffic control officers by the types of control (long-range, close-range, landing system, combat command and control) will be done in the last year. The lowest drop-out rate can be achieved in this case, and the possibility exists of dividing the cadets by their future purposes in accordance with their capabilities, which was not possible to do at the narrowly directed schools.

And, third and perhaps most important. Some could still agree with all of the prior arguments of the opponents of reform, but to leave the flight institute without its own direct supervision—in no way. A great many arguments are proposed: the control of air traffic, the safety of the pilots and the supply of fuels, among others. It could even be convincing to those uninitiated in this matter, but it seems that aside from ambitious intentions and a desire to preserve the structures that could be eliminated after a reform, the passionate opponents of reform have nothing.

All three of the schools today (two for pilots and one for navigators), sharing authority with the Military Education Directorate (rather, not letting go of it for an instant), are supervised by the command of the 17th Air Army, whose headquarters is located in Kiev. (NARODNA ARMIYA has already written about this.) I do not want to offend anyone, but some of the army commanders, as at the higher levels, to put it mildly, have an illusory notion of pedagogical activity in general and the flight training of cadets in particular. Why then foist the idea that the supervision of an institute of pilots, which will be composed of specialists, and the structure of the institute itself cannot provide everything necessary and do everything that the army does today? The more so as the amount of flight training will be reduced by almost half? Can the command post of the institute really not be able to provide for the completion of applications for pilots and monitor

flight traffic in its own zone? Or will the supply of the institute really have to be accomplished according to the scheme "Armed Forces of Ukraine rear support—Air Forces rear support—17th Air Army rear support—institute rear support," and not straight from the Armed Forces of Ukraine rear support to that of the institute? Who needs these intermediate structures except the structures themselves?

I must say a few words about flight safety. Experience gives me the right to say that it is impossible to ensure safety from the center if it is not refined by those who are directly organizing and executing the flights, supervising them and supporting them. Giving the institute greater independence in resolving issues of organizing flight operations raises their responsibility for the fulfillment by the institute of the quantitative and qualitative orders of the Air Forces for the training of specialists and the safety of flights. Excessive tutelage only smothers the performers and dissipates responsibility. And as for monitoring, no one is stopping the Air Forces command from implementing it, and the Military Education Directorate will have the instructor apparatus of the corresponding specialists.

The whole pedagogical community is preparing these days for its first congress of pedagogical workers of Ukraine. The workers in flight education are preparing for it as well. Everything must be done to see that flight education finds a suitable place in the state national program "Ukraine of the 21st Century."

Success to you, proud falcons of independent Ukraine!

Security Council Meeting Results; Force Readiness, Training Needs Probed

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[Article by Lt Col Viktor Shvyrev, NARODNA ARMIYA correspondent, under the heading "From the Meeting in the Ministry of Defense of Ukraine": "New Approaches in Troop Training for the New Army"]

[Text] As NARODNA ARMIYA already reported, a meeting of the military leadership took place at the Ministry of Defense of Ukraine, at which they summed up the training results of the armed forces in 1992 in conditions of reform. Participating in the meeting were Leonid Kravchuk, President of Ukraine and commander in chief of the Armed Forces of Ukraine; Ivan Plyushch, chairman of the Supreme Soviet of Ukraine; members of the Commission of the Supreme Soviet of Ukraine on Defense and State Security; Colonel-General Valeriy Gubenko, chairman of the State Committee for Protection of the State Border; Colonel-General Yevgeniy Marchuk, chairman of the Security Service of Ukraine; Colonel-General Andrey Vasilishin, minister of internal affairs of Ukraine; Guards Major-General Vladimir Kukharets, commander of the National Guard of Ukraine; and representatives of other state bodies.

Ministry of Defense officials, commanders of the branches of the armed forces, commanders of troops, chiefs of staff of

the districts and armies, division commanders, chiefs of military educational institutions, and others attended the meeting.

Opening the meeting, Colonel-General Konstantin Morozov, minister of defense of Ukraine, said that after proclamation of the Act of Independence, later confirmed by a nationwide referendum, Ukraine embarked on the path of creating a democratic, rule-of-law, independent state. Having declared that it would not participate in any military blocs or organizations and has no claims on foreign territories, at the same time Ukraine gave to understand that it will not permit interference in its internal affairs or someone's attempts to disrupt the peaceful labor of its people. And a guarantee of that will be powerful, modern armed forces, the organizational development of which it began immediately. The package of laws passed by the parliament on military issues significantly accelerated the process of reforming the grouping of forces of the former Soviet Union, giving it the appropriate organizational structure and stable command and control at all levels. Extensive work lay ahead and required a weighted, scientifically substantiated approach. Understanding this, with the very first steps in implementing military reform the Ministry of Defense sought to avoid haste and rashness.

A distinctive feature of the year that is coming to an end is the fact that, in addition to improving the organizational structure of the army and reducing the personnel strength, there has been intensive work to train and educate soldiers. I believe, the minister of defense emphasized, that the units and subunits have accomplished their assigned tasks of not allowing a decrease in the level of combat and mobilization readiness. This is evidenced, in particular, by the results of the recently concluded end-of-training-period performance evaluation. Most of the military collectives completed their combat training plans and programs qualitatively and fully and made a confident showing on the main examination of the year. In short, there are successes. Still, today we should exactly and objectively analyze what has been done and seriously discuss the course of military reform and the problems of the army, of which there are many just as throughout our state.

Lieutenant-General Georgiy Zhivitsa, acting chief of the Main Staff of the Armed Forces, gave a report on the training results of the armed forces in the past training year in conditions of reform. After characterizing in general the situation in which development of the army took place, he further said that the chief result of the first training year is the fact that we have been able to prevent a decrease in the level of combat and mobilization readiness and operational and tactical proficiency of the troops, although this did not come easily. It was particularly difficult for commanders and their subordinates in the first half of the winter training period. Having been accustomed to having enough of things prior to this, they encountered shortages of petroleum oils and lubricants and spare parts. What is more, with the departure of compulsory-service personnel to other republics of the former Soviet Union, the platoons, companies, batteries, battalions, and squadrons

thinned out noticeably. Ending up in such a situation, far from all organizers of training were able to orient themselves correctly in it and find the most acceptable variants for training specialists. Fortunately, this did not last long. Life made them recall simulators, technical training classrooms, fighting vehicle gunnery training facilities, and rifle and artillery ranges and to adopt such training methods as "dismounted tank training" and "from the simple to the complex." And things went well.

The following concluded the training year more successfully than others: Major-General Vladimir Shkitchenko's tank army; Major-General Valeriy Venger's mechanized division; Colonel Aleksandr Antoshkin's tank regiment; a number of aviation units; and the crew of the Ukrainian Navy's ship "Slavutich." The achievements of these and other units and subunits are not accidental. Here they skillfully planned the training, effectively used the method of integrating classes and training sessions, and made maximum use of the capabilities of the training facilities and field and maritime exercises.

Analyzing the basic directions of troop training, the speaker dwelled in detail on questions of mobilization readiness, and not because it is the main, determining indicator of the skills of commanders and staffs, but because it was here that there were omissions as well as successes. Here are some examples: in individual units there were the most flagrant miscalculations in planning and mobilization; the deadlines for bringing them to the designated areas were not taken into account; measures for various degrees of combat readiness were not coordinated; and the many types of military technical equipment were not taken into account. These and other shortcomings were encountered most often in certain Air Force units of the Carpathian Military District [MD] and of the training center of this same district. But perhaps the most painful issue is the incomplete storage battery sets. Of the 13 units evaluated, eight received an unsatisfactory rating of two due to the lack of power supplies or their unsuitability for operation.

As they say, nothing lasts forever. The battery also has a tendency to malfunction, and it is often difficult to make it last the indicated service life. But there is perhaps nothing in the army today that would attract light-fingered people than a battery. Such an example was given at the meeting. In the division where Colonel F. Shtrafunov is deputy commander, 4,500 storage batteries were identified for write-off. At the Ministry of Defense this figure was questioned and checked. And it turned out that in actuality the division was short 2,500 batteries, and the rest had simply been stolen.

Mobilization readiness—be it of a unit or subunit—is largely determined by the degree of readiness of alert forces and assets. How do things stand here? For the most part, collectives standing alert duty, the report noted, are successfully accomplishing their assigned missions and guarding the aerial borders of Ukraine with a watchful eye. Unfortunately, there are exceptions. Here is an example.

A target was launched to check the readiness of the alert assets of one of the helicopter regiments. The crew launched against it returned to base with nothing after searching long and hard for the target. What prevented the military aviators from accomplishing the mission? Maybe the simulated enemy was located over the defended installation just for a matter of seconds? By no means, the performance-grading intercept target was patrolling in the air more than long enough to be detected, about two hours, and covered more than 400 km. The alert air defense weapons also "missed" it. Is this a situation similar to the Rust situation?

This incident should become a serious warning to all who still underestimate their place and role in the air attack warning system and who are not ready to give an aerial aggressor a timely and decisive rebuff due to low professional training. And not only to them. Can it really be considered normal that sometimes there is no radar coverage, command post crews train only from time to time, questions of coordination between aviation, surface-to-air missile, and radar subunits are not properly worked out, and the work positions of duty officers are equipped with primitive warning and notification equipment? No, of course not. It is the duty and obligation of commanders at all levels to do everything they can to have highly trained people standing alert duty who are able at first signal to launch an aircraft, helicopter, or missile and head off the flight of an aerial violator without the slightest delay.

Touching upon operational training, Lieutenant-General Georgiy Zhivitsa cited a number of measures that left a noticeable mark last year in the development of strategy and tactics at the current stage of organizational development of the armed forces. Worthy of attention in this respect is the command post training exercise conducted under the direction of the minister of defense in late September and early October. At the same time, it would be wrong to believe that operational training is in total order. When command post exercises and training sessions are conducted, not everywhere do they take into account the military strategic and political situation or the tasks facing the Armed Forces of Ukraine. In some places, they allow simplified approaches to preparing and conducting an operation during the first period of a war and do not always practice such types of combat operations as a mobile defense. And it is of no use at all when such measures are organized according to old scenarios without imagination or creativity.

These final words best characterize the situation in commander training. Not susceptible to time and changes, it, like in past years, offers little to officer personnel and does not stimulate them to master advanced methods in organizing combat or the ability to competently employ and operate the equipment and weapons entrusted to them. Designed basically for an officer's independent work, it does not motivate him day in and day out to comprehend the difficult military science and increase his intellectual and general-educational level. This, so to speak, is one group of reasons keeping commanders from self-improvement. Another comes from the commanders

themselves. Today, it must be admitted, far from all officers are burning with zeal in the service. Some are exasperated by the lack of housing, others by the low pay, others... Still others are disastrously affected by non-TOE personnel, who are not responsible for anything and often receive high pay and allowances. The situation is difficult, but not impossible. Certain hopes, for example, today are being placed on the troop training concept.

As was already noted, in the past training year the troops keenly felt the shortage of petroleum oils and lubricants and spare parts. Nevertheless, problems of field and air combat training were resolved, and with some success in places. In ground units, for example, conducted more than 100 live-firing exercises and 16,000 classification firings; there were five tactical air exercises in the Air Force, three of which were rated "good"... As far as logging of flight hours is concerned, in air defense fighter aviation, first-class pilots logged 27-28 hours, and young pilots logged 8-9 hours. And this is not enough for either. The lack of an opportunity to fly regularly and the low pay have become almost the principal reason that military aviators who are barely past the age of 30 are leaving the army.

Officers are also leaving other combat arms: Tank Troops, Artillery Troops, Engineer Troops... Among them are also those who, besides the mundane squabbles, are bothered by the long-obsolete approaches in organizing and conducting live firings, exercises, and field exercises. Try to take exception to them... The past training year showed that not everywhere are they seeking out and proposing new, interesting forms of instruction or adopting techniques that make it possible to accomplish the same task with fewer forces and in less time. But then, one far more often encounters commanders working the old way, afraid to assume the responsibility for a nonstandard decision, and unable to organize correctly on the battlefield command and control and cooperation between various combat arms. When things get to the point of some serious testing, they begin feverishly looking for ways to increase the professional skills of their subordinates. The end-of-training-period performance evaluation, in particular, has shown that individual units are still using the long-condemned method of coaching personnel. In some units, on the eve of the year's main examination, they have been able to conduct three or four authorized firings instead of the one they are supposed to conduct.

In order not to disgrace themselves before their superiors, certain commanders sometimes have attempted to persuade representatives of higher staffs to authorize them to perform a task on the examination that their subordinates know well. And some have managed to get the "okay" to do this. An example of this is one of the tactical exercises which was conducted, with consent of a district staff officer, on a subject matter known in detail. Things like this are impermissible, as are window dressing, the lack of proper monitoring of the course of training on the part of staffs, headquarters, and combat training departments of districts and armies, and lack of objectivity in assessing the results of the soldiers' work.

These and other shortcomings have adversely affected not only field and air combat training of subunits, but also personnel discipline. It has long been known that where a good training process has been set up and the daily routine is implicitly carried out, there are the fewest deviations from regulation requirements or none at all.

If we talk about military discipline in general, our army, unfortunately, still has a rash of shameful phenomena such as "dedovshchina" [hazing of new conscripts by more senior ones], desertion, outrages by soldiers with respect to the local populace, and squandering of military property. The problem of safeguarding weapons and ammunition is critical. In the Carpathian MD, for example, in 11 months of this year they have had 19 firearms stolen, five of which have not yet been returned. Things are no better in this regard in the Odessa MD, the Air Force, or Air Defense. An analysis of the cases of theft of weapons and ammunition shows that most of them are stolen from depots (40 percent), while the duty detail is on duty (28 percent), or in an attack on the guard detail (10 percent). Much is being done today to preclude losses of weapons.

The address by the chief of the Personnel Directorate of the Armed Forces of Ukraine, **Lieutenant-General Aleksandr Ignatenko**, was devoted to the personnel policy in conditions of troop reform, the course of reducing the personnel strength of the armed forces, and the transfer of officers who are citizens of Ukraine from the states of the former Soviet Union. During the past year, he noted, our officer corps has been reduced by 10,000, and it is planned to discharge about 20,000 next year. We are encountering certain difficulties in accomplishing this task. Today, for example, there are quite a few servicemen who have completed their terms of service, but cannot be discharged due to a lack of housing for them. Haste in deciding the future fate of some or other officer, of course, is not permissible, but slowness here also is of no use. Meanwhile, in some branches of the armed forces and military districts there are unjustifiable delays in preparing the appropriate discharge documents, and for under various pretexts they put off sending them to higher echelons. For these and other reasons, 458 officers have not been discharged in the Air Force, 198 in the Carpathian MD, and more than 150 in the Odessa MD. The speaker further emphasized that a state program for retraining and adaptation of servicemen to civilian life would largely contribute to a planned reduction of the army.

An equally complex problem is the return home of officers and warrant officers who are Ukrainian citizens and their assignment to appropriate positions. Here are a few figures to begin with. There are 150,000 servicemen stationed outside our state, 95,000 of whom would like to return home. Some 36,000 officers have applied for a transfer to their homeland, and 17,000 have already received a favorable decision on this matter. But, as they say, that is one side of the matter. The other side is that due to the lack of appropriate positions, the officers arriving in Ukraine are being assigned to the commanders of districts and armies. To date, we have more than 6,000 such officers. The state spends more than 50 million rubles a month on their

upkeep. And this is at a time when the armed forces are experiencing a critical shortage of platoon, company, battery, and squadron commanders. The situation is made even worse by the fact that lately there has been a marked increase in the number of young officers applying for discharge. A particularly large number of those leaving are ones who have pretty fair knowledge in the field of information and computer technology. One can encounter quite a few intelligent platoon and company commanders today working in commercial structures as managers, brokers... If things continue this way, in a few years we will experience serious difficulties in selecting battalion and squadron commanders. Of course, we must not permit this. To keep this from happening, we must delve deeply into the needs and requirements of young officers, make note of their zeal and effort in a timely manner, and not allow capable lieutenants and senior lieutenants possessing initiative to remain in primary positions for a long time. Of course, we must raise the prestige of military service in every way and strive to see that the armed protectors of Ukraine have housing and are paid appropriately for their difficult labor.

Lieutenant-General A. Ignatenko further proposed to create a personnel body under the Main Staff of the Armed Forces, conduct a certification of officer personnel next year, and legislatively approve the issue making it possible to discharge military personnel into the reserve after they have completed 15 years of service with the right to receive a 40-percent pension.

Major-General Vladimir Mulyav, chief of the Directorate of the Socio-Psychological Service, devoted his speech to the development of the socio-psychological service in the troops and its concept and tasks in conditions of reforming the armed forces. In particular, he emphasized that today the question has not been posed as to whether there should or should not be a socio-psychological service. How to make sure there is no vagueness in what its workers are to do, on what they are to concentrate their efforts, how and in what way they are to influence the people's awareness, and what levers to use to increase combat and mobilization readiness of units and subunits and strengthen discipline, good organization, and order. He further stated that at the center of attention of the new service is the idea of a cultural and national rebirth of the Ukrainian people and state independence. It is on its basis that we should educate personnel and arm them with a profound knowledge of the history of our state.

Only by putting human values at the head of the list and subordinating all educational work to the cause of forming in servicemen high moral and spiritual principles can we count on their selfless service to the Ukrainian people and loyalty to their customs and traditions.

It was in this context that work was conducted this past training year for creating in the army the structures of a socio-psychological service and selecting and assigning its personnel. At the present time, the socio-psychological service is staffed at a level of 58 percent. Monthly and weekly courses, which more than 300 officers have already

gone through, help greatly to increase the ideological and professional level of the service's workers.

Leonid Kravchuk, President of Ukraine and commander in chief of the armed forces of Ukraine, said in his speech that the main result of this training year is the fact that today we have our own armed forces capable of protecting the people and the state. In beginning their organizational development, I think we made the right choice at the very beginning of the path. First, we determined clearly that we cannot achieve independence without an army. Second, we began reforming the three districts of the Armed Forces of the former Soviet Union on a sufficiently good legal base; I have in mind the packages of laws on military issues passed by the Supreme Soviet of Ukraine.

During the past year, the President further emphasized, quite a bit has been done in the building of our state and its army. But this is only the beginning of a large amount of work which in the future will require from all of us enormous efforts, a nonstandard approach to accomplishing the wide-scale tasks, creativity, and initiative. And here it is very important to be consistent in implementing the outlined plans and to rely more not on intuition, but on scientifically substantiated calculations and conclusions in certain matters.

One of the most important tasks now facing the Ministry of Defense is conclusion of work on the military doctrine. As we know, its draft was recently considered by the Supreme Soviet and, having received a number of comments, has been sent back for finishing touches. But there is nothing terrible about that. When making the changes and refinements to it, we must above all clearly determine our position with the nuclear weapons that are under administrative control of Ukraine. Here we cannot manage without consideration of our realities and capabilities or without an answer to the following questions: Is our state able to maintain and service the missiles systems, renovate their park, repair the most complicated electronic equipment, and train military personnel? Is it better to take the path of creating armed forces which, having modern equipment and armament, could be just as successful in accomplishing the tasks facing them? In short, there is something to think about here.

The President further touched upon problems of training officer personnel and the course of military education reform. Emphasizing that quite a bit has been done in this direction, he also cautioned against making hasty and rash decisions and urged that consideration be given to the opinions of all opponents without exception. At the same time, adjustments should be made to the training programs of future officers, and new programs should be developed which take into account most fully the changes taking place in the troops.

The President directed the attention of those present to the need to further increase the quality of troop training and make extensive use of the latest training aids. In this important matter we must always remember that only competent, top-rated specialists will be able to make the maximum use of modern equipment and weapons, and in

the final analysis successfully accomplish the tasks facing them. It is more than absurd to contrast people with equipment and argue about which is more important and more necessary.

In this context, work must also be done to educate personnel, form military collectives, and create in them conditions which rally and unite people of the most diverse nationalities and help them demonstrate fully their knowledge, skills, and abilities. However, everything is not as we would like it to be. For example, questions are being raised about who should serve in the Ukrainian Army, what kind of history should we study, and in what form. What can I say? Everyone who has taken the oath will serve in our army. As far as the history, customs, traditions, and language of the Ukrainian people are concerned, every person is obligated to know them, regardless of whether he is a Russian, Pole, Belarusian, or Jew. He must know them to honestly serve his people.

The President of Ukraine dwelled specially on the question of social protection of servicemen and their family members. He remarked that quite a bit is being done in this direction. Still, there are many problems here, the most critical one being housing. Steps are being taken to resolve it. The investment of funds, including from the sale of equipment and military property being released, in the housing construction sphere is steadily increasing. But this is still not enough. More decisive steps and measures are needed. Local bodies of power could also have a big impact here. For example, why couldn't they be the initiators of the construction of an installation for servicemen and their family members near Kiev?

Concluding his speech, L. Kravchuk urged the meeting participants to step up the work for reforming the armed forces, further improving their organizational structures, developing control systems, and increasing the quality of training, instruction, and education of personnel.

Lieutenant-General Ivan Oleynik, armament chief of the Armed Forces of Ukraine; **Lieutenant-General Viktor Grechaninov**, rear services chief of the Armed Forces of Ukraine; **Lieutenant-General Valeriy Vasilyev**, commander of the Air Force; **Lieutenant-General Mikhail Lopatin**, commander of the Air Defense Troops; **Valentin Lemish**, chairman of the Supreme Soviet Commission on Defense and State Security; **Lieutenant-General Vitaliy Radetskiy**, commander of the Odessa MD; and others participated in a discussion of problems raised at the meeting.

Summing up the results of the meeting, Colonel-General Konstantin Morozov, minister of defense of Ukraine, noted the complexity and multi-plan nature of the tasks that had to be accomplished by the leadership of the armed forces in the past training year. These include measures for reforming the army and the military education system, reducing the numerical strength, and maintaining combat and mobilization readiness of the troops at the proper level.

In this past year, the personnel strength of the army has been reduced by 136,000. It will decrease by more than

100,000 next year. On 1 December, work began to transform the Odessa and Carpathian military districts into the Southern and Western sectors, respectively. Plans for reforming air defense units and creating Ukraine's Navy will be steadily implemented.

As before, the main directions in troop training will still be to improve mobilization and operational training, and field, air combat, and maritime training of personnel. Questions associated with standing alert duty, organizing and conducting tactical exercises, gunnery, and driving exercises will be at the center of attention. The highest demands will be imposed on quality of classes for special, technical, and humanities training. There is still much work to be done to implement new general military regulations, gunnery courses, and various manuals.

These and many other tasks obligate unit and subunit commanders to approach the training and education of subordinates in a new way. Meanwhile, the past training year has shown that far from all officer leaders are able to accomplish combat training tasks creatively and with initiative or to find effective ways of increasing harmony in the actions of subordinates. What is more, some of them are willing, for the sake of their own well-being, to pass off what is desired as reality and to embark on the path of deception. The end-of-training-period performance evaluation presented quite a few lessons on this account. And it is significant that it is not just young commanders who suffer from this ailment. Those who like to blow dust in the eyes and conceal some or other serious error in their work can be encountered in division, army, and district staffs. We must firmly adopt a simple truth: as long as we have among us officers who are inclined to embellish results and deceive, we cannot rid ourselves of miscalculations in organizing combat training and education of soldiers.

New approaches in troop training for the new army. This idea was heard repeatedly from the rostrum. The minister of defense also focused the attention of the generals and officers on it. For the requirement to work according to the modern way to firmly become a part of the daily activities of all commanders, we must be concerned about the conditions which would best promote the manifestation of creativity and initiative. Officers at the platoon and company level require special concern. Responsible for everything, they nevertheless have been deprived of the elementary opportunities to demonstrate independence. That is why many of them are dissatisfied with the service and sometimes are indifferent about fulfilling their responsibilities. We must immediately rid this category of commanders of excessive tutelage and monitor those who have been in the same position for a long time.

In conclusion, the minister of defense tasked the meeting participants to put firm order in the units and subunits in accordance with regulations, create normal everyday conditions for soldiers and noncommissioned officers, and to decisively stamp out instances of evasion of duty and theft of weapons. In the interests of democratization of military service, he urged them to expand glasnost, arm personnel with legal knowledge, make appointments on a competitive, alternative basis, most decisively nip in the bud

manifestations of nationalism and legal nihilism, not permit servicemen to be drawn into a political fight, and not permit various politicized public organizations to influence them.

BALTIC STATES

Russian Troops in Baltics, 12-18 March

934K0648B Tallinn THE BALTIC INDEPENDENT
in English 12-18 Mar 93 p 3

[Article compiled by Lya Oll]

[Text]—The withdrawal of Russian troops from Lithuania is generally going according to schedule although delays of one to three months have occurred for some units, said Colonel Stasys Knezys, head of the Lithuanian commission for overseeing the withdrawal. Out of the 295 army units in Lithuania at the time of the signing of the withdrawal agreement with Russia last September, 70 had left by March 1. The pullout of air force units which should have been completed by the end of 1992 is expected to end in May, Lithuanian and Russian army officials agreed on March 2.

—Lithuanian authorities registered 58 unsanctioned flights by Russian air force planes in Lithuanian airspace between March 2 and 6.

—Lithuanian border guards in Medininkai detained a Russian army serviceman who tried to smuggle 100 kilograms of copper across the border (March 2).

—Lithuanian border guards detained a Russian army officer with contraband on the Moscow-Kaliningrad train (March 2).

—A Russian air force AN-2 plane carried out unsanctioned training flights above the town of Kazlu Ruda in southern Lithuania with the dropping of paratroopers (March 3); on the same day a column of 18 Russian army petrol tanks without travel permits entered the military airport of Kazlu Ruda.

—Lithuanian border guards detained four Russian army officers travelling without permits on the Moscow-Kaliningrad train (March 5).

—Lithuanian border guards detained three officers and four servicemen of the Russian army travelling without permits on the Kaliningrad-Vilnius train (March 6).

—A fire broke out in the ammunition depot of Russian army unit No 94150, located three kilometres from the Latvian town of Liepaja. *Diena* reports the thief who had crawled into the depot through a sewer system and caused the fire died in it. No serious damage was caused to the depot, according to army officials.

—Norway is prepared to help build housing for the withdrawing Russian troops, Helga Harnes, deputy foreign minister of Norway, said during a visit to Latvia on March 5.

—Russian air force planes violated Latvia's airspace 222 times in the first two months of 1993, according to the

Latvian Defence Ministry. Over the same period, Russian navy vessels violated shipping regulations three times and travelled through Latvian territorial waters on three separate occasions; Latvian border guards detained 72 Russian troops attempting to enter Latvia illegally.

—Commanders of the Russian Northwestern Forces have asked Latvia to allow an additional 1,561 troops into the country to help with the withdrawal (March 3). The Latvian officials say the request could only be granted after they were allowed to inspect the Russian units and determine whether additional troops were necessary.

—Russian air force planes continued unauthorised flights in the Latvian airspace: ten flights were registered on March 1; one on March 2; two on March 3; four on March 4; two on March 5; five on March 9.

—Between March 2 and 9, Latvian border guards registered ten separate attempts by a total of 38 Russian troops to enter Latvia without a permit.

—A trial began on the island of Hiiumaa, off the western coast of Estonia, over eight former Russian border guards who performed a series of thefts on the island between July and September before Russian guards withdrew from Hiiumaa (March 2).

—Approximately 100 Russian navy vessels have been scuttled off the Estonian coast in recent years, many with their tanks full of fuel and some possibly containing poisonous chemical substances, Estonia's Environmental Minister Andres Tarand said on March 4.

—Estonia hopes to receive financial support from the European Bank for Reconstruction and Development for the dismantling and transportation from Estonia of the nuclear reactors at the Russian naval base in Paldiski, Foreign Minister Trivimi Velliste said on March 4, after returning from a visit to London where he had also met leaders of the EBRD.

—The Estonian security police have arrested a retired Soviet army officer on charges of firing at the Danish Embassy in Tallinn on March 2.

—Estonian police discovered 100 kilograms of metal hidden in an army truck driven by five Russian troops in Tallinn on the night of March 5.

Lithuanian Flotilla Commander on Status of Naval Forces

934K0602A Vilnius EKHO LITVY in Russian 3 Mar 93
p 3

[Interview with commander of the Lithuanian naval flotilla Commander Raimundas Baltuska by EKHO LITVY correspondent Valeriy Mokrushin: "This Is Not Uncle Jonas With a Berdan Rifle... The Lithuanian Navy is Born"]

[Text] *Naval forces are being created in Lithuania. Why the republic needs them—and what they should be—are the*

problems, among others, that our correspondent discussed with the flotilla commander, Commander Raimundas Baltuska.

[R. Baltuska] Let us clarify at once that the country's defense policy, including for its maritime areas, is being devised by the Seimas and the government. Our task is to provide for the strict fulfillment of what is planned. The conceptual framework of the country's defense has still not been formulated, although the fundamental principles of it have already been defined. The main thing is that the democratic Lithuanian state does not intend to attack anyone, and will strive to see that all disputed issues and conflicts that arise are resolved peacefully. That corresponds entirely to the situation that predominates in the world today. We would be short-sighted policymakers, however, if we were to forget a basic lesson of our history—one cannot forget about essential defense while developing good-neighbor ties.

[V. Mokrushin] Defense against whom? The phrase "potential adversary" was in circulation quite recently, during the Cold War confrontation between East and West. So just who is the potential adversary for Lithuania and its naval forces toward whom your weapons are aimed today?

[R. Baltuska] First something about terminology. The times are changing, and outmoded terms are receding into history. The term "potential adversary" looks to be having such a fate as well. Recall that at a press conference that was jointly conducted by the presidents of the United States and Russia after the signing of the latest agreement on cutbacks in strategic arms, journalists asked: now that the former adversaries are talking about collaboration, at just whom are the missiles aimed, who is the potential adversary for them? George Bush answered simply that there were forces remaining in the world that are ready to fan the flames of regional, if not worldwide, wars. The Saddam Hussein clique in Iraq and other regimes engaged in international villainy were cited as examples. That, it would seem, is the answer to your question. Speaking in concrete terms, an independent republic needs naval forces in order to repel any adventurist attempts from the sea to encroach on the sovereignty of Lithuania or its territorial integrity, as well as for the protection and monitoring of our territorial waters and economic zone.

[V. Mokrushin] Territorial waters and economic zones are not new concepts, but they are quite forgotten in Lithuania. What do they signify today?

[R. Baltuska] In accordance with international conventions the Baltic Sea, as is well known, is divided into territorial waters and economic zones. The territorial waters of Lithuania are those areas of water that adjoin its coastline in a twelve-mile strip, and they are part of our state territory. Our economic zone extends for a hundred miles and touches the analogous zones of Sweden, Poland and Russia. While we inherited the western boundary of the zone from the former USSR and there is complete clarity and understanding there, a series of difficult issues is arising in relation to the northern and southern flanks.

Agreements among the nations are needed that would define clear-cut boundaries of the spheres of influence, and the sooner that is done the better. Their absence is leading to fishermen from neighboring countries catching fish in the disputed waters, while we do not have the legal basis to instill order.

[V. Mokrushin] One could think that our neighbors think of nothing but how to slip into our waters and make themselves at home to their hearts' content. Is the danger really all that great? Some (and perhaps in high places) are saying that it is enough for Lithuania to have a merry rowboat and Uncle Jonas with a Berdan rifle to protect its interests at sea.

[R. Baltuska] One can speak of rowboats and Berdan rifles only in jest. That is how professionals take such discussions. Until recently we were armed with the one large (comparatively speaking, of course) ship *Vetra*, a refitted geographical vessel. When our first ship had occasion to go out to sea to restrain foreign vessels that were fishing in our waters, most often poachers who had put out nets, they got away under its very nose. Its speed, after all, is less than that of fishing vessels. Storms are moreover frequent on the Baltic, and wave levels of four to five are critical for the *Vetra*.

We are studying attentively the experience of the small countries of Europe, and first and foremost our neighbors. The naval forces of Denmark, for example, number some several dozen craft, including modern multipurpose ships. Norway, Sweden and Finland have large navies. Analysis is very convincing that we also need modern vessels. We are left with two small frigates that, I feel, were advantageously obtained from Russia. They are among the best ships in the world in their class, have powerful missile and artillery armaments and can successfully hunt submarines or lay down mine fields. Meanwhile, no civilian vessel can rival them in speed, so no offender can get away from them. Our flagships have other merits as well. They are quite economical in spite of all their power, and they draw electric power from shore when moored.

[V. Mokrushin] Yes, these are not the veteran *Vetra*...

[R. Baltuska] And the more so Uncle Jonas' rowboat! So a foundation exists for the fleet. Now it is most important to master the vessels, to put them into formation. And here I cannot fail to express a word of gratitude to the Russian naval instructors, who are passing along to their Lithuanian colleagues their experience in controlling a modern ship equipped with highly complex electronic and automatic systems and power plants. That is why we feel, by the way, that most of the crews should comprise professionals, as it is difficult for a conscript to master the hardware over one year. We hope that the government will have a receptive attitude toward our proposals.

[V. Mokrushin] The acquisition of men for the crews and their combat training are not the only problems that concern the commander of the flotilla of naval forces being created...

[R. Baltuska] Of course not! Our navy, after all, is being created from square one. An iron box, no matter what powerful computers it may be stuffed with, means nothing in and of itself; only people, if you will excuse the platitude, can breathe life into it. We need military specialists. And they exist. Our countrymen are writing to us from every corner of the former Soviet Union—regular officers who are today serving in the Russian or Ukrainian fleets and would gladly return to Lithuania. I am convinced that the procedure for obtaining citizenship should be simplified for them and the members of their families.

A plan for the utilization of the Klaypeda coastline and its development as a major trade and industrial center is being created in the republic today. It is surprising that the specialists working on the plan seem to have just plain forgotten about the military sailors. But here is something to think about. The naval base in Copenhagen, for example, is located right in the middle of the city, and it is very popular with a multitude of tourists. It is the same with other ports of Europe as well. We hope that the

experts remember us anyway, and we in turn will help them find a convenient and safe harbor for the naval vessels.

There are lots of problems, in short, and we can't cover them all, but I do not want to fail to mention one more. The naval forces today are built largely on the enthusiasm of people who are striving to help their homeland and are not thinking of themselves or their own families. We have not yet received a single apartment, many officers are stuffed into corners, and their pay could easily be called symbolic. But it cannot go on that way for long! The sooner the problem is resolved the better. Modern combat vessels equipped with the latest word in hardware and with crews on board who know their business well, and not, I repeat, "Uncle Jonas with Berdan rifle in a merry rowboat," are needed for the sound defense of our maritime borders and effective monitoring of our territorial waters. We are waiting for the relevant circles, on whom the resolution of these issues depends, to weigh in and rectify the situation.

[V. Mokrushin] That you for the discussion. And may your hopes come true quickly!

ARMS TRADE

Statute on Military Product Export Control

93WP0097A Moscow KOMMERSANT in Russian
No 5, 1-7 Feb 93 p 24

[“Statute on Licensing Procedure for the Export and Import of Military-Designated Production (Work, Services) on the Territory of the Russian Federation, Approved by Decree of the Council of Ministers-Government of the Russian Federation No. 80 Dated 28 January 1993”; first paragraph is KOMMERSANT introduction]

[Text] The Russian government has confirmed the listing of military-designated production, export and import of which are effected by license. The Ministry for Foreign Economic Relations will issue licenses only in cases where the appropriate government decision has been made. A license is issued for one production variety.

Statute on Licensing Procedure for the Export and Import of Military-Designated Production (Work, Services) in the Territory of the Russian Federation

1. This statute determines licensing procedure for the export and import of military-designated production (work, services) on the territory of the Russian Federation.

Licensing in the Russian Federation of shipments of special components for the production of arms and military equipment within the framework of CIS member states is effected in accordance with procedure as determined by Decree of the Russian Federation Government No. 517 dated 24 July 1992.

2. The export and import of military-designated production (work, services) is effected on the basis of licenses issued by the Russian Federation Ministry for Foreign Economic Relations.

A license is issued to entities of economic activity which have received the authorization of the Russian Federation government to export and import military-designated production (work, services).

A license which has been issued is not transferable to other juridical or physical persons.

The procedure for registering a license is determined by the Russian Federation Ministry for Foreign Economic Relations. In this regard, applications for the export of military-designated production (work, services) are coordinated with the Russian Federation Committee on Defense Sectors of Industry and the Russian Federation Ministry of Defense.

Applications for the export of released assets of military designation are issued upon additional coordination with the Russian Federation State Committee on the Management of State Assets.

The Russian Federation Ministry for Foreign Economic Relations, jointly with the Russian Federation State Customs Committee upon coordination with the Russian Federation Ministry of Defense, has the right to introduce

necessary changes to the Product Nomenclature of Foreign Economic Activity (henceforth termed TN VED).

3. The following comprise grounds for the registration of an export license for military-designated production (work, services):

- decision of the Russian Federation government;
- application drawn up according to established procedure;
- original of a certificate of the end user of military-designated production (work, services) issued by an authorized organ of the receiving country;
- signed or initialed contract for the export of military-designated production (work, services);
- original of authorization, or its certified true copy, for the accomplishment of export-import operations by a foreign firm in military-designated production (work, services), issued by an authorized organ of the country in which this firm is registered.

The Russian Federation Ministry for Foreign Economic Relations has the right to request that an applicant provide additional information necessary for issue of a license.

4. The following comprise grounds for issue of an import license for military-designated production (work, services):

- decision of the Russian Federation government;
- application drawn up according to established procedure;
- signed or initialed contract for the import of military-designated production (work, services).

5. A license for export (import) of military-designated production (work, services) is issued for one production variety on the TN VED, regardless of the number of production entries included in a contract.

In certain situations, issue of a general license for several production varieties is permitted to entities of economic activity authorized to export (import) military-designated production (work, services) by decision of the Russian Federation government on the basis of agreements of the Russian Federation with foreign countries, if these production varieties belong to the same product subheading of the TN VED.

6. A general license is issued to an applicant for a period of one calendar year. Export (import) operations under a general license may be carried out through one or several transactions.

A one-time license is issued to an applicant for a period of up to 12 months for the conduct of export (import) operations for each separate transaction.

The period of validity of a license may be extended at the justified request of an applicant by the Russian Federation Ministry for Foreign Economic Relations. Extension of the period of validity of a license is confirmed in writing.

The Russian Federation Ministry for Foreign Economic Relations sends copies of licenses issued based on decisions of the Russian Federation government to the Russian Federation Ministry of Defense.

7. A license or justified refusal to issue one is sent to the applicant not later than 25 days after the date the application arrives at the Russian Federation Ministry for Foreign Economic Relations.

In the event an applicant is asked to provide additional information, the time frame for issue of a license is computed from the date such information arrives at the Russian Federation Ministry for Foreign Economic Relations, and comprises not more than 15 days.

Issued licenses are registered with the Russian Federation Ministry for Foreign Economic Relations.

8. The Russian Federation Ministry for Foreign Economic Relations has the right to cancel the validity of a license based on decisions of the Russian Federation government or Interdepartmental Commission on Military-Technical Cooperation Between the Russian Federation and Foreign Countries, as well as to suspend its validity in the event a license holder violates the procedure established by this statute.

Suspension of the validity of a license by the Russian Federation Ministry for Foreign Economic Relations may

be appealed to the Interdepartmental Commission on Military-Technical Cooperation Between the Russian Federation and Foreign Countries, whose decision is final.

9. The Russian Federation Ministry for Foreign Economic Relations determines procedure according to which exporters and importers of military-designated production (work, services) submit information for statistical accounting and reporting, and for verifying that payments are made as established by legislation of the Russian Federation.

10. The Russian Federation State Customs Committee exercises control over export from the territory of the Russian Federation and import into the territory of the Russian Federation of military-designated production (work, services).

11. Entities of economic activity bear responsibility for violations of this statute in accordance with legislation of the Russian Federation.

Approved by Decree of the Council of Ministers-Government of the Russian Federation No. 80 dated 28 January 1993

Listing of Military-Designated Production (Work, Services) on the Territory of the Russian Federation Whose Export or Import Is Effected By License

Production Designation	TN VED Code*
Tanks and other self-propelled armored vehicles with and without armament, parts and accessories to these—8710	00000
Military aircraft:	
Helicopters with empty weight not greater than 2,000 kg—8802	11 900
Helicopters with empty weight greater than 2,000 kg—8802	12 900
Planes and other aircraft with empty weight not greater than 2,000 kg—8802	20 900
Planes and other aircraft with empty weight greater than 2,000 kg, but not greater than 15,000 kg—8802	30 900
Planes and other aircraft with empty weight greater than 15,000 kg—8802	40 900
Parts for aircraft classified within product headings 8802-8803	10 900
8803	20 900
8803	30 900
8803	20 900
8803	30 900
8803	90 100
8803	90 990
Apparatus for aircraft take-off and flight; carrier deck braking apparatus or similar mechanisms for aircraft landings; ground-based simulators; parts for such apparatus—8805	10 100
8805	10 900
8805	20 900
Warships—8906	00 100
Military weapons (except revolvers, pistols, and other weapons classified under product heading 9307)—9301	00000

Production Designation	TN VED Code*
Revolvers and pistols (except those classified under product headings 9303 and 9304)—9302	00 100
9302	00 900
Parts and accessories to military weapons, revolvers, and pistols classified under product headings 9301 and 9302—9305	10 000
9305	90 100
Bombs, grenades, torpedoes, mines, missiles, and similar weapons for conducting combat operations and their parts; cartridges, other ammunition, projectiles and their parts—9306	90 100
Military-use powders—3601	00 000
Military-use explosives—3602	00 000
Military-use detonation devices—3603	00 900
Telescopic and laser sights for mounting on weapons, periscopes, military-use optical and laser scopes, mechanisms, devices, parts, and accessories to them—9013	10 000
Military-use navigational devices and accessories to them—9014	00 000
Military-use radar apparatus, radio navigation devices, and remote-control radio equipment, parts and accessories to them—8526	00 000
Military-use parachutes (including airship parachutes) and rotating parachutes, their parts and accessories—8804	00 000
Transmitting apparatus for radiotelephone and radio-telegraph communications, radio or television broadcasting, with or without receiving equipment, sound-recording, or reproduction apparatus, military-use television cameras, parts and accessories to these—8525	00 000
Means of protection from toxic substances used in combat, parts and accessories to these*—9308	00 000*
Military uniforms and accessories*—6508	00000*
Military-designated work and services*	At the end of the appropriate TN VED code insert "1" instead of "0"*
Normative-technical documentation for military-designated production (design and operation documentation)*	At the end of the appropriate TN VED code insert "2" instead of "0"*

*TN VED—Product Nomenclature of Foreign Economic Activity

Army Vehicles, Ammunition Auctioned*PM2602121993 Moscow IZVESTIYA in Russian
24 Feb 93 p 2*

[Report by Dmitriy Khrapovitskiy: "Military Equipment and Ammunition on Display at Exchange for First Time"]

[Text] On the eve of 23 February the large-scale, clanging movement of military equipment was to be observed around the "Moscow Chamber of Commerce" exchange. Outwardly this was strongly reminiscent of the period of the State Committee for the State of Emergency but this legitimate exchange trade was organized in accordance with Yeltsin's edict "on the procedure for selling and using decommissioned military property" signed 30 November last year.

On the day of the army holiday the equipment and also the military ammunition was put on display by the specialized state economically accountable enterprise for sale. Around the exchange building were used "Volgas" (15 to 45 percent worn out and priced at 3.5 million to 720,000 rubles), armored personnel carriers without weapons but with radios, and support vehicles with "kungi" [s "kun-gami"—meaning unknown].

On offer in the trading hall are GAZ, ZIL, and Ural trucks, gun tractors, snow and swamp caterpillar tractors, shoes, pants, felt boots, and even neckties and forage caps. The starting price for the first consignment is about 3.5 billion rubles. According to the exchange's military consultants, one square meter of housing constructed by construction troops costs several thousand rubles today. You can do the sum for yourselves. And you must consider that these consignments will reach the exchanges regularly. And what consignments!

DOCTRINAL ISSUES**Defense Advantages of Fortified Areas***93UM0227A Moscow VOYENNY VESTNIK
in Russian No 10, Oct 92 (signed to press 21 Sep 92)
pp 35-38*

[Article by Colonel A. Adamovich and Colonel N. Nikitin, candidate of military sciences, under rubric "School of Combat Proficiency": "In Coordination with Fortified Area Subunits"]

[Text] Defense becomes a priority form in the initial period of war, which is natural inasmuch as an enemy

invasion has to be opposed. The latter may begin aggressive operations with lengthy, massive delivery of fire, and it will be very difficult to preserve stability even of a prepared defense, especially if high survivability of troops is not ensured.

Accumulated combat experience indicates that fortified area subunits are distinguished by the greatest stability.

Research results cited in the table clearly confirm that personnel sheltered in permanent emplacements restore combat effectiveness considerably faster after fire is delivered against them.

Installation	Percentage of installation combat effectiveness restored following cessation of fire after:						
	1 Minute	2 Minutes	3 Minutes	4 Minutes	5 Minutes	6 Minutes	7 Minutes
Strongpoint with conventional fortifications	0	3	13	30	49	70	85
Individual groups of permanent emplacements or armored installations	30	60	80	100	100	100	100

Machinegun-artillery battalions, both separate as well as part of machinegun-artillery units, are the basis of a fortified area organizational structure.

On the whole, these battalions possess a high capability of independently repelling assaults by considerably superior enemy forces, but they have certain weaknesses: small depth of strongpoints, limited capabilities for maneuver of personnel and equipment, and presence of exposed flanks. In addition, based on Great Patriotic War experience, intervals between permanent emplacements were far from always reliably supported by fire and obstacles, and machinegun-artillery battalion subunits lacked the personnel and equipment to create highly mobile relief parties.

In our time, along with aggressive operations from the front one should expect wide enemy use of airborne assault forces in connection with development of the air-land operation theory. Problems of further increasing tactical independence of machinegun-artillery subunits are exacerbated under such conditions. Based on the experience of wars and exercises of recent years, their solution reduced chiefly to reinforcing fortified areas with field-filler troops. In other words, machinegun-artillery battalions as a rule would assume a defense together with motorized rifle (tank) battalions.

Fundamentals of defense stability are laid down back during organization of the defense, which has its inherent features under the conditions in question. This concerns the combat formation above all. Here it is especially important that its skillful alignment ensure maximum use of strong aspects of fortified areas and compensation for deficiencies with filler subunits. And here is another nuance: only a combination of static and mobile forms of defensive battle and skillful concentration of main efforts on avenues of probable tank approach will permit imposing one's will on the enemy.

With consideration of what has been said, the combat formation of a motorized rifle battalion with a tank company was aligned as follows in one exercise in Far Eastern Military District (see diagram).

In accordance with the decision, the motorized rifle companies assumed a defense together with machineguns in the latter's strongpoints. This permitted increasing the

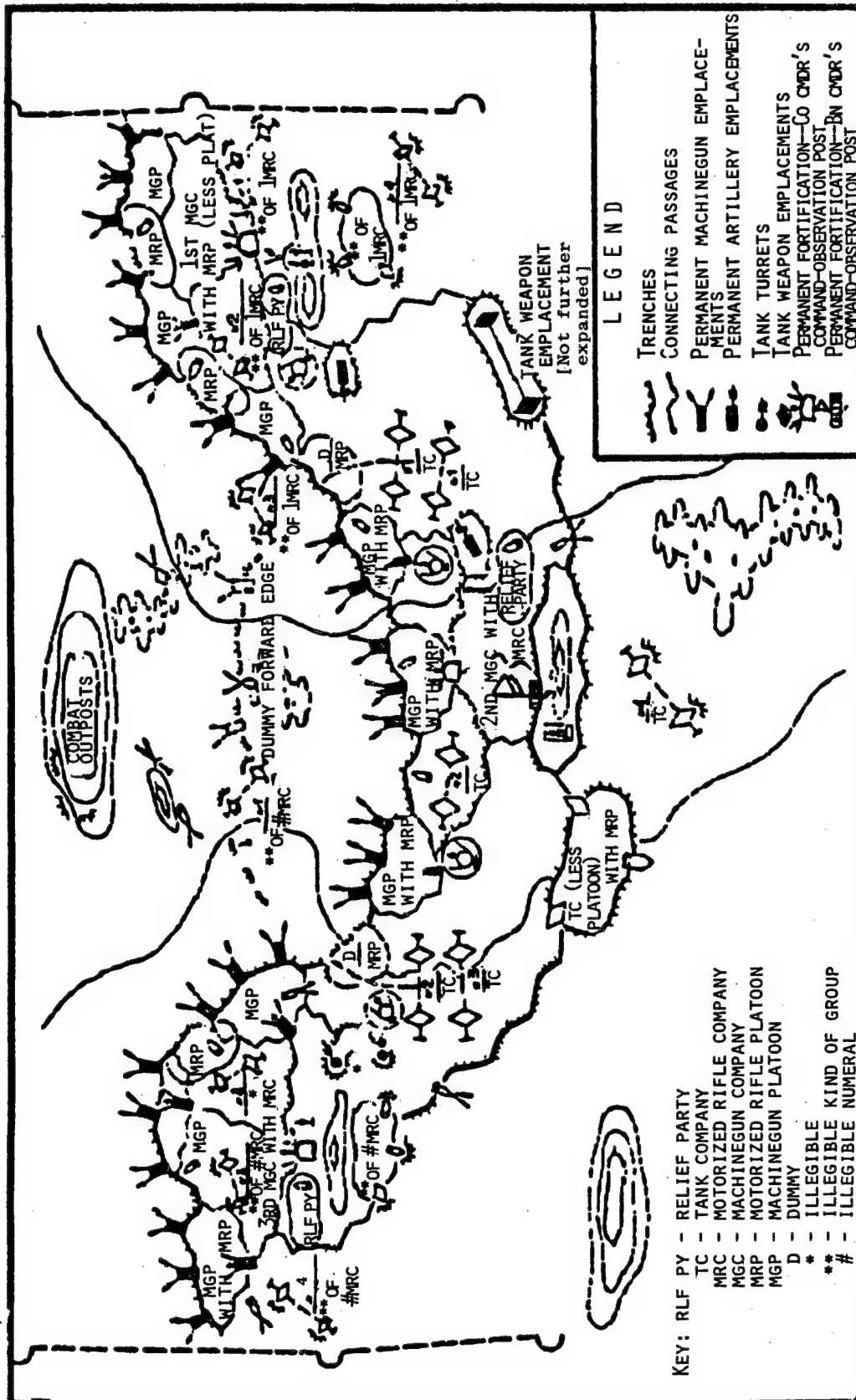
capabilities of permanent emplacements for self-defense and establishing a continuous zone of small-arms and machinegun fire ahead of the FEBA with a density of 7-8 bullets per minute per running meter, ensuring up to 80 percent losses inflicted on attacking infantry. Reliability of the antitank defense on avenues of probable tank approach also was increased considerably.

Infantry fighting vehicles and individual tanks were used as a kind of "roving permanent emplacements" both on the FEBA as well as in the defensive depth, and also for organizing fire ambushes and establishing mobile groups of armored fighting vehicles. The latter were disposed on the flanks immediately behind company strongpoints. This provided multiple options for concentrating efforts depending on the nature of enemy actions, provided reliable cover of intervals with adjacent units, and created favorable opportunities for organizing an all-around defense.

A tank company less platoon reinforced by a motorized rifle platoon assumed a defense in the second echelon. It was assigned lines of fire positions on avenues of probable tank approach. Counterattacks also were planned under favorable conditions.

In addition to the combat outpost position, a dummy forward edge was prepared on approaches to the defense where fire ambushes consisting of motorized rifle squads, machinegun teams and individual tanks and IFV's were prepared along with a trench and dummy permanent emplacements. They thereby planned to deceive the enemy regarding the trace of the FEBA and draw his subunits into a fire pocket in the course of battle, because calculations indicate that in such a case an attacking enemy's losses increase by 6-8 percent (depending on the degree to which surprise is achieved in opening fire).

By the way, as shown by the experience of Persian Gulf combat operations, skilled preparation of dummy installations largely contributes to increasing the survivability of true ones even with enemy use of modern reconnaissance equipment and weapons. Hence it follows that more attention must be given to this question with a joint defense by machinegun-artillery and motorized rifle subunits. It is better to create dummy installations in advance and it is advisable to simulate vital troop activities within them



with the immediate threat of enemy invasion. Studies have shown that in cases where decoy actions are conducted, the probability that dummy strongpoints, dummy permanent emplacements, dummy weapon positions and so on will be taken for real increases to 85 percent.

Certain features also can be noted in organizing command and control in a joint defense. For example, it was arranged as follows in the battalion commanded by Major A. Balov. Overall direction fell on him, and the machinegun-artillery battalion commander was his deputy for fortified area subunits. But at the company level, to the contrary, overall command rested on commanders of the machinegun-artillery subunits inasmuch as the motorized riflemen were occupying a defense in the strongpoints of those subunits.

Fixed command-observation posts of machinegun-artillery battalions and wire lines prepared in advance, providing for the possibility of joint combat operations with motorized rifle subunits, were chiefly used for command and control.

Engagement of the enemy begins on approaches to the defense. Casemate and mobile artillery engages attackers on routes of forward movement and lines of deployment. Combat outposts destroy reconnaissance and forward subunits. Superior enemy forces are engaged by fire from maximum range. Combat outposts leave the occupied position on order of the battalion commander and withdraw behind the FEBA under cover of artillery fire and obstacles. Fire ambushes are especially effective here. Their advantage is that tanks (IFV's) are capable of quickly changing positions, ensuring surprise in opening fire.

Where possible it is advisable to leave a portion of the forces such as two or three tanks or IFV's or several destroyer groups, each consisting of 3-5 soldiers armed with rocket launchers and machineguns, in the rear of the attacking enemy as roving ambushes. It is difficult to overestimate their importance; as experience of the Great Patriotic War and local wars indicates, nonstandard, surprise actions even by small subunits often produce very appreciable results, especially on rugged terrain. This is why it is necessary to take advantage of any opportunity to create centers of combat operations in the enemy rear, even if this results in some weakening of resistance on the line of contact.

Defense of combat outpost positions permits determining the enemy plan once and for all, and above all the axis of main attack. Much depends on effectiveness of reconnaissance here. Its efforts are concentrated on clarifying the makeup of attacking troops by axes and discovering artillery firing positions, command and control facilities and other important installations.

Defenders' combat operations for the FEBA are of decisive importance in achieving the goal of the defense. The important thing here is to repel attacks by superior enemy forces and hold occupied strongpoints, preserving subunits' combat effectiveness.

It is advisable to shelter a large part of the personnel in permanent emplacements to reduce losses of field fillers in strongpoints on the FEBA in the period of enemy fire preparation. By the way, this not only will permit avoiding destruction of personnel, but also constantly conducting observation (in contrast, let us say, to a bunker or covered slit), promptly taking measures to counter enemy attempts to seal off permanent emplacements, and also reducing the time for occupying field positions when he launches an assault.

Tanks present the greatest danger for defenders in permanent emplacements on the first line in repelling the assault. The tanks fire against embrasures, supporting a rapid advance to the FEBA by the infantry, which in turn seals off fortifications, infiltrates into the depth and attacks them from the rear. A breach may form in the defense as a result. Consequently, stability of subunits depends to a decisive extent above all on organizing an antitank defense. Calculations show that on an individual line it is capable of ensuring repulse of a tank assault with a probability no lower than 0.75 if by the moment of the sides' close combat the number of attacking tanks does not exceed the number of antitank weapons by more than 2.5 times. And the sides will suffer comparable losses.

One effective means of rapidly reinforcing an antitank defense on a threatened axis is the maneuver of groups of armored fighting vehicles to lines of fire positions on the rear boundary of first-line platoon strongpoints or to their flank. For this, groups of armored fighting vehicles are disposed in sheltered areas behind first-echelon company strongpoints, which ensures their arrival at the line of firing positions in approximately 3-5 minutes. But enemy tanks together with infantry will require a minimum of 6-8 minutes for advancing from the assault position to the FEBA.

It is also advisable to provide for the maneuver of a group of armored fighting vehicles to axes where the enemy has penetrated. If necessary a portion of the forces can be regrouped here to switch positions from sectors not under attack so as to keep the enemy advance from spreading into the depth and to create preconditions for his subsequent destruction. Everywhere conditions permit, filler subunits are obligated to act aggressively. What has been said goes above all for previously established relief parties, which may undertake counterattacks to destroy the enemy already on the FEBA to ensure survivability of permanent emplacements. Supported by the fire of groups of armored fighting vehicles, tank weapon emplacements, artillery demi-caponiers and mortar batteries, they can play an important role in defeating a wedged-in enemy. Follow-on forces also are involved in them in order to improve the defenders' position and force attack elements to advance in unfavorable directions.

A combination of surprise preemptive delivery of fire and counterattacks by small subunits from the flanks with stubborn defensive operations from the front in the final account will contribute to creating favorable conditions for subsequent defeat of the enemy by the senior commander's forces.

A significant increase in troop airmobility in recent years makes a landing by tactical airborne assault forces in the rear of fortified areas fully realistic. The most probable targets of their attack are permanent emplacements in the depth of the defense, reserves, and command and control facilities. Neither motorized rifle nor machinegun-artillery battalions have organic means for combating enemy airborne assault forces at places of their formation on the ground, but they are capable of engaging them in the air on transit routes.

In order to carry out such missions, it is advisable to employ some of the battalions' air defense weapons to set up fire ambushes on probable directions of enemy helicopter overflight into the rear. In particular, mixed groups consisting of ZSU-23-2's or anti-aircraft machinegun mounts and shoulder-fired SAM systems are effective. Use of small arms and guns to combat airborne assault forces also appears fully justified. This means subunit fire against helicopters from BMP-2 main guns and tank anti-aircraft machineguns at ranges of 1,000-1,500 m as well as surprise, powerful (for 4-5 seconds) tracking (barrage) small-arms fire at ranges of 500-600 m.

On the whole the fire plan of motorized rifle (tank) subunits is organized with consideration of fire capabilities of machinegun-artillery units and supplements and reinforces them. As shown by exercise experience, joint operations considerably improve stability of a defense and permit repelling an attack by a superior enemy, especially in the initial period of war.

The questions considered represent only a portion of the most difficult ones in preparing and conducting joint operations of the motorized rifle battalion and machinegun-artillery battalion in the defense and require constant, comprehensive study in the course of troop combat training.

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Fortified Areas: Lessons and Conclusions (We Continue the Topic)

93UM0227B Moscow VOYENNY VESTNIK
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pp 39-43

[Article by Colonel Yu. Shlyk, candidate of military sciences, under rubric "The Problem Requires a Solution"]

[Text] *We return once more to the conversation about fortified areas begun by the article by Candidate of Historical Sciences, Docent Colonel V. Sidorov.¹ It told in detail about the history of their creation and combat employment during the Great Patriotic War. An article published later by Colonel V. Bakharev² told about the present condition of fortified areas and the problems which must be resolved urgently.*

Today, dear readers, we offer for your attention one of the responses received by the editors.

Questions about fortified areas raised by authors of previous articles require careful attention, above all by the supreme leadership of the Armed Forces and state. As

Colonel Bakharev correctly noted, fortified areas have far from exhausted themselves. With the proper attitude toward them, they unquestionably will play an important role in the future in case of armed conflicts. Moreover, the presence of fortifications and strong borders, as we say, will be a deterring factor to a certain extent even before the beginning of outside armed intervention.

It is my profound conviction that questions connected with upgrading existing fortified areas and creating new ones must be resolved specifically now, in the period of establishing the Russian Federation Armed Forces, forming troop table of organization structures, and developing Russian Federation military doctrine.

Without laying claim to truth in the final instance, I will express my viewpoint regarding the future of fortified areas. It is necessary not only to preserve them, but also to specify a higher status for them in the national security system based on geopolitical realities and the international situation as well as the latest events occurring on former USSR territory. The advisability of that approach would appear to be determined by several aspects. We will attempt to examine the most important of them.

Military aspect. Here above all one should ask the question: How effective will use of fortified areas be in the modern battle and operation? In the Great Patriotic War they largely justified hopes placed on them, but modern combat operations differ considerably both from those conducted during World War II as well as from postwar local conflicts. Events in the Persian Gulf serve as obvious confirmation of that.

Lately the actions of tactical airborne assault forces and airmobile and ground maneuver elements employed as a rule in air-land offensive operations have become widespread. From all appearances, fortified areas will not be an insurmountable barrier for them, but that is not the case for ground units and subunits (which are the basis of ground forces) and their logistic and technical support entities.

Moreover, fortified areas prepared for an all-around defense also will become a serious obstacle in the path of landing and mobile subunits in case of their withdrawal. In addition, the enemy will not be able to destroy the standard weapon emplacements and other works mentioned in Colonel Bakharev's article with a sufficient degree of reliability (in view of their small size as targets), even with precision weapons. And garrisons supplied with everything necessary are capable of fighting a many times superior enemy for a lengthy time. It is only that in the process of reorganizing fortified areas, they should be reinforced with air defense weapons. Thought also should be given to including mobile (airmobile?) units as antilanding reserves, remote minelaying subunits and so on in the makeup of machinegun-artillery formations and units.

By virtue of their specific nature and specific combat purpose, fortified areas will cope enormously better with the mission of covering the state border than combined-arms formations moving up to it from the depth to take up a defense, and they will do this with incommensurably

fewer expenditures of personnel and equipment. Exercises conducted in the Far Eastern and Transbaykal military districts in the 1980's showed that regimental fortified areas are capable of creating an effective defense in a sector exceeding the frontage of a motorized rifle formation's defensive zone by 1.5-2 times.

Military-political aspect. Formation of independent states on the territory of a once unified power substantially altered the military-political situation on one-sixth of the planet. We became witness to formation of republic armed forces, national conflicts, property disputes and territorial claims. Statements about revising borders are becoming louder and louder. Some contiguous foreign states also are advancing demands about a transfer of Russian lands. Unfortunately, all this is an objective reality from which there is no escape. Politicians are succeeding in resolving issues by peaceful means for now, but is there certainty that this is the way it will be in the future as well?

From a report of the U.S. Defense Intelligence Agency to the American Congress: "Regional conflicts along borders of Russia henceforth will be the principal concern of Russia's military leadership."

Be that as it may, in general Russia inevitably will be faced with the question of reinforcing both new as well as old border lines. And here, in my view, there are only two ways. The first is to build up a system of border fortified areas. The second is to station combined-arms formations in the immediate proximity of the border and chiefly at reduced strength, considering the economic and demographic situation in the country. Possibly, of course, also a combination of them to a certain extent. Which way is more effective and advantageous?

The Russian Federation is reducing the numerical strength of the Army and Navy in fulfilling the USSR's international obligations it assumed. Nevertheless, moans still are heard abroad concerning the allegedly undiminished Soviet threat. Although such facts are not worth taking into account, I believe contiguous states will not be able to reproach Russia for deploying attack groupings near the borders. That is, of course, if fortified areas receive priority, for in contrast to combined-arms formations, they are intended exclusively for defensive combat operations and the numerical strength of personnel here is three or four times less than in a motorized rifle division. You will agree that it is a factor of no small importance, considering the ongoing Armed Forces reform.

Military-geographic aspect. Areas where present machine-gun-artillery units are stationed, most often at reduced strength and with partially mothballed permanent emplacements, are distinguished by very low population density compared with other regions of the country. The road network is poorly developed here and built-up areas, military units and the military commissariats which provide manpower for them are a considerable distance from each other. In the opinion of many specialists, it is very difficult and sometimes simply impossible to ensure timely delivery of mobilization resources when fortified areas are deployed in desert-steppe terrain of the Transbaykal and

mountainous woodlands of the Far East, especially with aggressive operations by enemy raiding and reconnaissance parties.

In my view, instead of understrength machinegun-artillery units and formations, it is advisable to maintain fortified area garrisons on such operational axes in immediate proximity to the state border—garrisons small in makeup but powerful in weapons and supplied with everything necessary for lengthy, autonomous operations. Constantly ready to repel armed aggression, they are capable of pinning down major enemy forces, including forward detachments and mobile air-land maneuver elements, and supporting the mobilization and movement of troops to defensive lines.

Mobile (field) fortified areas appear to be more effective in the European part of Russia as well as in other regions with a developed infrastructure. It makes sense to include them in table of organization structures of combined-arms formations. Unfortunately, questions of this sort have not been discussed for now, and much in this area needs to be studied and checked.

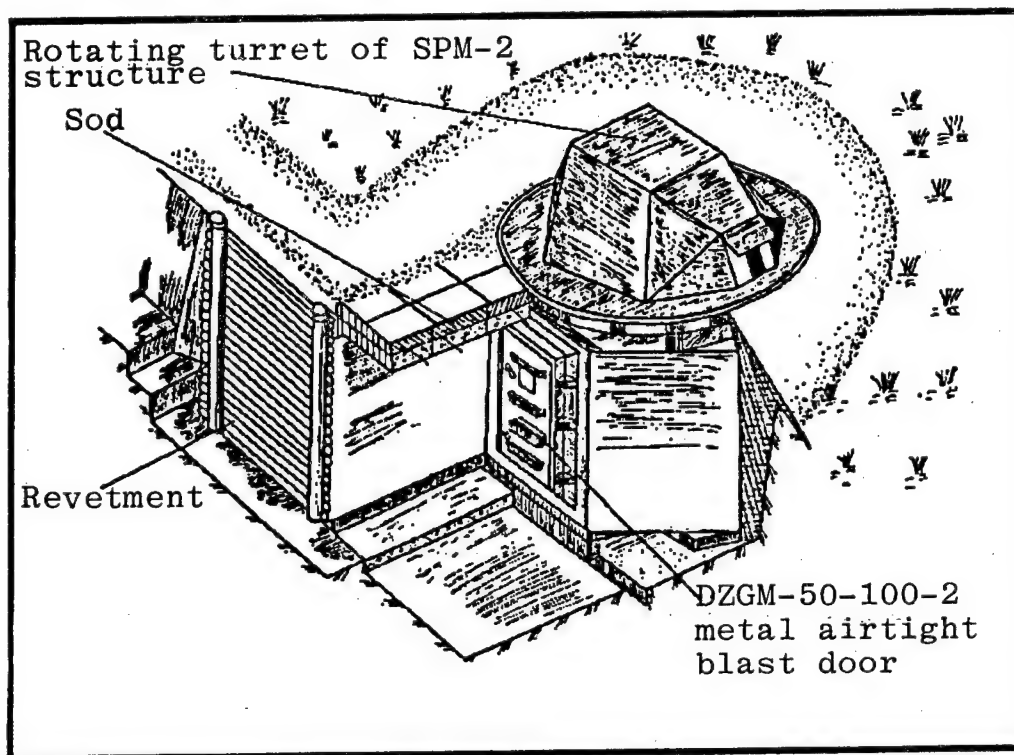
Military-economic aspect. A certain number of fighting vehicles and arms are being concentrated at storage bases and in arsenals in connection with the disbanding of a number of formations and units. It follows from press reports that those bases and arsenals turned out to be unprepared to receive the considerable number of tanks, IFV's, self-propelled AA guns, guns, mortars and so on. Therefore the technical condition and conditions for upkeep of costly equipment do not hold up under any criticism, to put it mildly. In fulfilling understandings reached on reducing offensive arms, Russia is forced to put a large part of them "under the knife," and colossal assets are being wasted.

Meanwhile, obsolete turrets of T-34, T-54, IS-2 and IS-3 tanks continue to be in the inventory of fortified areas created in past years... Is it not better to update the decisions which were made? For example, use armament of modern vehicles to equip border fortifications, also including when they are established on new state borders, and operate the remainder in the troops and in the national economy as all-terrain vehicles, prime movers, bulldozers and so on.

On the other hand, supporting the activity of fortified areas requires enormously fewer material expenditures, and not just because of their small table of organization structure compared with a motorized rifle division. For example, POL deliveries (the lion's share of the overall amount of expenditures for upkeep of combined-arms units) are reduced to a minimum. Cumbersome headquarters, signal, service and support subunits also will not be needed.

Social aspect. Here above all I wish to support Colonel Bakharev's opinion about bringing in patriotic Cossacks to guard Russian Federation borders. History itself prepared such a destiny for the Cossacks. It is at the very least unwise now to obstruct their desire to perform border guard duty. In my view, revival of the Orenburg, Siberian,

SPM-2 metal machinegun structure with standardized precast concrete foundation



Transbaykal, Amur and Ussuri Cossack forces is a dialectical pattern. It is simply impossible not to consider that circumstance today.

The distribution of fortified areas among Cossack settlements will relieve many urgent problems. First of all, the need to maintain large army force elements near the border will disappear. Secondly, the Cossacks will begin to care for the technical structures, arms, and fortified area communications system and be responsible for their combat readiness. Thirdly, after first-term service in fortified areas, Cossacks who are subject to military service obligation will be registered to them, which will substantially simplify the work of military commissariats in a special period and will preclude a shortage of so-called critical specialists. The list of positive points can be continued even further.

And I would like to dwell on one other matter of no small importance: command and control of subunits.

It is common knowledge that after regimental fortified areas were reprofiled as machinegun-artillery regiments, for some reason the numerical strength of the staff and headquarters was reduced. But in contrast to the motorized rifle and tank unit, its subunits often are in several garrisons at the same time at a considerable distance from each other. It is enormously more difficult to exercise command and control of them and provide them with everything necessary not only in a combat situation, but

also in a peacetime situation. It is also approximately the very same picture in the machinegun-artillery division, the difference being only in the greater number of installations and military posts and in the distances between them...

Yes, as Colonel Bakharev correctly noted, fortified areas again are not experiencing their very best days. But one would like to believe that, situated along the homeland's borders, they still will find their future. It is important only to draw correct conclusions and learn lessons from the past.

Footnotes

1. VOYENNNYY VESTNIK, No 4, 1991.
 2. VOYENNNYY VESTNIK, No 7, 1992.
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Strategy and Military Doctrine in a Changing World

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pp 98-108

[Article by Yu. Gaydukov, a military researcher on problems of strategic stability, under the rubric "Point of View": "Strategy and Military Doctrine in a Changing World"]

[Text] The foreign and military policy of the emerging Russian state is taking shape right before our eyes. The author naturally does not set himself the task of considering all aspects of that policy in this article. It does seem useful, however, to single out some of the most important of them, making it possible to draw certain conclusions. These are the problems of disarmament, the prevention of further disorganization and destabilization in the armed forces, military reform, an easing of the acuteness of the social problems of the servicemen and the creation of the legal and political conditions for the normal functioning of the army.

A definite basis for the solution of urgent issues has now already been discerned at first glance in all these areas, including:

- limitations and cutbacks in strategic offensive armaments—a framework agreement with the United States on strategic offensive armaments;
- averting further disorganization and destabilization in the army—edicts on the formation of the Ministry of Defense and the Armed Forces of Russia;
- the organization of military reform—the three-stage plan proposed by the Ministry of Defense for the “creation and reformation” of the Armed Forces of the RF [Russian Federation] (one cannot fail to note herein, it is true, the lack of conformity of the concept of “military reform” and “reform of the Armed Forces”);
- an easing of the acuteness of the social problems of servicemen—the preparation of the draft laws “The Status and Social Guarantees of Servicemen” and the State Program for the Social Protection of Servicemen in the RF Armed Forces, Individuals Discharged From Active Military Service and the Members of Their Families, as well as other measures; and
- the creation of the legal and political conditions for the normal functioning of the army—the second consideration of the “Defense” law by the Supreme Soviet and the formation of the Security Council.

The decisions being made in practice, meanwhile, are not always suited to the realities and do not have the expected results. We will start with the preparation of the framework agreement on strategic offensive arms, which was accompanied by significant political costs, first and foremost connected with the hasty early initiatives that were advanced in this realm without proper academic study that were contained in the declaration of the president of Russia of 29 Jan 92.

The restrained (at least) reaction of the United States to the proposal to cut back strategic offensive armaments to the level of 2,500 warheads and its skeptical attitude toward the declaration of the redirection of the missiles (the missiles, after all, could very quickly be trained on their initial targets, with it moreover impossible to monitor what programs have been entered into their guidance systems), judging from everything, is no accident. The decisive refusal of Great Britain, France and China to the appeal of the Russian president to join in with the process of nuclear disarmament also draws attention to itself.

The proposal to create a Russian-American system of anti-missile defense elicited an even more negative reaction from China, which discerned in it an attempt to reduce to zero the nuclear potential of the PRC so as to later dictate to Beijing the “rules of the game” in its foreign and domestic policy.

Such actions understandably facilitate neither the perception in the West of Russia as a serious and reliable partner nor the realization of the fundamental interests of the country in such vitally important areas of its foreign policy as relations with China and with the Third World countries.

A period of temporizing and an inactive stance—often described here as a display of wisdom and restraint—by the Russian leadership in military policy preceded the formation of the RF Ministry of Defense and the Armed Forces. By the admission of most of the member countries of the CIS and the other former Soviet republics, the fact that the formation of the approach of Russia to the solution of military problems before 16 Mar 92 was essentially farmed out to the Ministry of Defense of the collapsed USSR sooner gave pause than reinforced the mutual trust of the parties.

No few questions also remain after the edicts of the president of Russia of 16 Mar and 7 May 92 on the formation of the Ministry of Defense and the Armed Forces of Russia, first and foremost on the prospects for military reform and the problem of strengthening political control over the army.

The list of crisis aspects could also have been continued in relation to the other problems noted earlier in Russian military policy. It seems that that is enough, however, to draw the conclusion that **the insufficient academic study of the conceptual foundations of foreign and defense policy lies at the heart of most of them.** Two elements evoke particular alarm, in my view—first, the stubborn reluctance to follow practices that have received worldwide acceptance in the formulation of policy and, second, the *de facto* refusal to coordinate with society, which should be a chief participant in the transformations and reform program being pursued.

Take, by way of example, the sequence of the postulation of tasks in the creation of the Russian Army. The edict of May 7 has in first place the submission of plans for the formation of the MDAF of Russia, and only after that the development of the conceptual framework for military organizational development, the re-organization of the system for the creation and procurement of armaments, military hardware etc.¹ World experience shows that it is obligatory in this case to go through the stages of development of the conceptual framework for national security, military doctrine and the conceptual framework for military organizational development, and moreover namely in that sequence.

That is just what happened, by the way, in the course of the recent military reforms in the United States, Germany, China, Poland and even in the creation of the armed forces of Ukraine. Russia also obviously cannot get by without it,

and that means that this work will still have to be done (it is incomprehensible, true, what became of the results of the activity of the seven (!) bodies in the Russian government and in the presidential apparatus that were responsible, to one extent or another, for the formulation of military policy and existed long before the formation of the Ministry of Defense).

Aside from criticism, it seems to me that the following topical questions also need to be asked: does a real alternative to prevailing practices exist in Russia today? Is there the corresponding academic base for the resolution of both these and other military-political problems?

The vacuum that existed in this realm for a long time is gradually being filled by various centers for strategic studies that are being spun off from the academic institutes and institutions of the defense industry, among others. The social organizations of the professional military—for instance the Union of Officers, which has been conducting various conferences and roundtables on strategic issues—are also trying to have their say. A familiarization with the existing projects brings to mind the thought, however, of how “strategic” the research is that is being pursued by those organizations. What, intrinsically speaking, do their specialists mean by the word “strategic”—an independent science or an element of the military arts? The fact that the discussion is about something else entirely also cannot be ruled out.

The quite widespread use of military terms in the most varied areas in the life of our society, by the way, seems unwarranted. One result of this kind of “militarization” of mass consciousness, it seems, is the proximity of the adjective “military” alongside the term “strategy,” even though you will not find a “non-military” treatment of the meaning of this word in any encyclopedic dictionary. The use of the term “military-political strategy” by some of our political scientists is also not quite understandable, especially bearing in mind that the well-known formula “strategy is a continuation and part of politics”² has already long become classic.

In light of the foregoing, it would evidently not be without its uses to try and give a clearer definition of the concept of “strategy,” relying on a brief historical digression therein.

* * *

The appearance of a definite military theory on the role of warfare and military force in international relations, which received the name of “strategy,” is commonly linked with the era of the Great French Revolution. The conditions for the application of military force for political purposes were radically altered during this period. The British, Dutch and Great French revolutions decisively ended the process of formation of the terms “nation,” “nation-state” and, finally, “national interests,” for the protection of which whole peoples were later roused. It was namely starting at that time that the “era of mass armies” began in military affairs, and the scope and consequences of wars were altered.

The French Revolution, which revealed in the popular masses inexhaustible reserves for the replenishment of the army, facilitated the fact that the thinking of the military leader ceased to fear large human losses. The Napoleonic strike strategy appeared that received in military science the name of the “smashing strategy.” Wars in the 17th and 18th centuries were often typified as “cabinet,” since war was then the purview of the government, the “cabinet,” and in no way the nation; during the era of the Napoleonic wars, into which wars the broad popular masses were brought, the direct interdependence of strategy and politics becomes obvious.

This can be discerned quite clearly based on the example of the activity of Bonaparte himself. Although France possessed a monopoly on the latest methods of waging war from 1794 to 1806, Napoleon nonetheless tried to resort to political means so as to provide himself with the possibility of an advantageous peace. The broad domestic political support in France for his actions can be explained by the perception of the emperor as peacemaker. When Napoleon began to make gross political miscalculations, his military adventures began to end in catastrophe.

The newest phenomena in the military arts were first recognized and deeply revealed by the brilliant military thinker of the era Heinrich Dietrich von Bülow (1757-1807). His famous work “The Spirit of the Latest Military System” (two editions, in 1799 and 1805) appeared as the result of an analysis of the Napoleonic approaches, and in it he showed for the first time the close correlation between politics and strategy, as well as delineating the latter from tactics, and approached an understanding of the role of the operational arts as an intermediate link between the two.³

The appearance of strategy as a definite system of knowledge was thus not so much “a direct result of the summarization of the experience in leadership of the armed forces in the process of preparing and waging wars and military operations on a strategic scale”⁴ as it was the reflection of an objective process of changing conditions for the application of military force for political purposes. The **pivotal direction of strategic analysis, national interests—political goals—military aims**, was formulated namely during the period of the Napoleonic wars. Strategy should be founded, for the correct determination of those last aims, on a profound knowledge and understanding of history and the political, economic, ecological and biological consequences of warfare.

That is why it would be unwarranted to reduce the theory of strategy to the level of just one of the elements of the military arts. Strategy serves as a common system-forming element in the realm of national security. The structure of the armed forces, intelligence services and other bodies supporting security should be determined and their functions delimited with the aid of it. One should have a clear-cut conception of the fact, however, that the principal efforts of strategy are nonetheless directed toward the definition of the parameters and role of the military aspect of this problem, and the gravest of consequences for national security arise from entrusting the armed forces with tasks that are not characteristic of them.

One can try to formulate a definition of strategy based on such an understanding of its role and place. It would seem that the understanding of strategy as a system of knowledge for preparing a country and its armed forces for war, planning and waging strategic operations and warfare as a whole,⁵ and the more so as a science "on the general laws... of armed struggle in the name of certain class interests,"⁶ does not fully meet contemporary requirements when warfare cannot be a means of rational policy. The conception of strategy as a science for the formulation of the military-political aims of the state and the means of achieving them reflects the essence of the problem to the greatest extent.

Analyzing the historical, political, economic, technical and socio-cultural aspects of the utilization of military force in international relations, strategy should research the sources and nature of a possible military threat to national interests (international security), the parameters for the organizational development of the armed forces and the means of employing them, as well as the principles for managing the military activity of the state.

I would also like to state several considerations that pertain to the role of strategy as a realm of practical activity.

Strategy obviously cannot be the domain of just the "higher military-political leadership, supreme command and higher staffs."⁷ That approach leads to the formation of a "strategic caste" that is not able to devise solutions suited to the contemporary situation. The situation that has taken shape here with the study of the theory of strategy in the army must be changed first and foremost in order to overcome this situation.

The now almost traditional features in the press by General of the Army V.N. Lobov in September—November 1991 can boldly be called the first attempt in many years to re-interpret the concepts of "strategy" and "military doctrine" in our country. The collective monograph of Soviet military theoreticians titled "Military Strategy" quoted above, which came out under the editorship of Marshal of the Soviet Union V.D. Sokolovskiy in 1962, was essentially the latest work of scientific theory in this field. Many of the tenets of that book were formulated under the influence of ideologized perceptions of the world, and there was thus no room in it for classical methodological approaches that had received worldwide recognition. The assessment of the role and tasks of strategy was made under the banner of the "party-mindedness" of that science.

Our history, however, knows another situation as well, when the Russian and Soviet schools of strategy occupied the leading positions in the world. Brilliant pages in its development were inscribed by the eminent Russian and Soviet commanders and theoreticians N.P. Mikhnevich, Ye.I. Martynov, A.A. Svechin and B.M. Shaposhnikov, among others. Major-General of the Russian Army and later professor at the RKKA [Workers' and Peasants' Red Army] Academy A.A. Svechin (1878-1938), who perished in one of the camps of the GULAG, should be singled out

in particular among this group. His works "Strategy," "The History of the Military Arts" and "The Evolution of the Military Arts" remain unsurpassed in a whole series of parameters to this day.

The appearance of an English translation of General Svechin's book "Strategy"⁸ in 1992 (its last Russian edition came out in the USSR 65 years ago...) was instructive in particular. Also noteworthy was the opinion of the American editor of the book, K. Lee, that "the intellectual rehabilitation of Aleksandr Svechin should have taken place long ago. It would have thereby corrected a historical injustice that lasted almost six decades. The publication of the chief work of his life, the second edition of 'Strategy,' in English is an act of his rehabilitation at the international level. Historians and political scholars in many countries will finally be able to assess his contribution to military science."⁹ It only remains for us to regret that the rehabilitation of this eminent military theoretician nonetheless did not occur in his Motherland...

I am convinced that strategy should not be some kind of Latin, dividing the army into the initiated and the uninitiated. The ideas of A.A. Svechin that were expressed as early as 1925-26 remain topical under contemporary conditions as well, such as the necessity of the mastery of strategic issues right at the beginning of military service, and the importance of instruction in strategy at higher military-educational institutions "in our era of transition, when not only Europe but the entire globe is beginning to take shape as a completely new strategic landscape."¹⁰ A course in strategy, however, has not been part of the program of higher military-educational institutions since the rout of his school in the 1930s.

This problem is receiving yet another measure in today's period of transition. The army is more and more taking on the role of an independent political force with the collapse of the Union, and this situation will obviously be preserved (if it does not get even worse before the ultimate international resolution of the fate of the armed forces and the pursuit of military reform, a period on the order of 7—10 years according to estimates). Former Soviet officers and generals are coming out into the political arena more and more actively, and judging by how they are resolving issues, in particular the composition of the strategic forces, the nature of the tasks being entrusted to the armed forces and the like, some of them, even having donned, say, Ukrainian epaulets, have in no way ceased to be students of the Soviet "school of strategy."

The need for an understanding of basic strategic issues on the part of the broad public is also entirely apparent. Otherwise there can be no discussion of exercising real political control over military activity. Glasnost and the absence of a monopoly on strategic research are in turn essential for that, and without them the battle of ideas and opinions takes on the nature of theoretical debates, as it were.

The opening of the independent centers for strategic research in Moscow that were mentioned at the beginning of the article is an important step in this direction. The

aspiration of, say, the founders of the Russian Institute for National Security and Strategic Research to concentrate on a study of the problems of the conversion of military industry, clean-up of the environmental consequences of military activity etc.¹¹ is wholly understandable. But independent scientific centers—engaged in the elaboration of those parameters of military organizational development under which the necessity of subsequent broad-scale conversion of the defense industry requiring billions in capital investment and a fight against the ecological consequences of military activity will not arise—are also needed, in my opinion.

Having defined the concept of “strategy” as an independent field of knowledge, we will now try and investigate the mechanism for the realization of the concrete conclusions of that science.

The conclusions of the theory of strategy are in the category of concrete-historical, and are formulated in the form of doctrinal postulates **that in the aggregate constitute the military doctrine of the state.** A different viewpoint has meanwhile been held in this country for a long time. It was felt that “strategy occupies a subordinate place in relation to military doctrine,”¹² and which, strictly speaking, also constituted the “party-mindedness” of that science. The replacement of professional analysis with “pop” propaganda slogans occurred as the result of just that approach. This practice was called a “doctrinaire attitude toward strategy”¹³ in the “post-putsch” months by General of the Army V.N. Lobov, who occupied the position of Chief of the General Staff of the Armed Forces of the USSR (and for which he probably had to part with his position). Even though that tenet was not widely developed, the conclusions of General Lobov seem to me to be topical and without alternatives as before.

One also unfortunately cannot fail to note a series of contradictions that are inherent in his stance. This pertains first and foremost to the very postulation of the problem. Deeming strategy “the foundation of any doctrine,” Professor V.N. Lobov nonetheless constructs a chain of logical reasoning in the sequence of politics, doctrine and only then strategy.¹⁴ It is for namely that reason, in my opinion, that he relegates to military doctrine a place that does not correspond to its actual role in the overall conceptual framework of national security, which leads in turn to the debatable proposal for a structural restructuring of the armed forces.

Clausewitz, discussing methods of strategic analysis, had noted on this score that “Each goes around in an arbitrarily drawn circle, and no one is trying in his substantiations to get to the foundation, fundamental to all action, which consists solely of the true motive whence the logical conclusion can be obtained” (emphasis mine—Yu.G.).¹⁵ That point of departure for the formulation of doctrinal postulates should be national interests as defined in the overall conceptual framework for the security of the state along with the aims, principles and priorities arising therefrom on all aspects of this problem. **Military doctrine is the continuation of that conceptual framework, developing its provisions apropos of the military sphere.**

One must approach the determination of the range of issues that military doctrine should address and the level of their detail with extreme circumspection therein. The declaration of the leadership of Russia that it no longer considers any state or coalition of states to be a potential adversary requires the replacement of that concept with the category of a “source of military danger” to national security. Whence it follows that the first question that will have to be answered by the military doctrine of our state should be, what are the sources of military danger to national interests? What are the aims of military policy and the whole spectrum of tasks being accomplished within the framework of it that arise from the nature and parameters of the military danger?

It seems to be that averting war is a national and general human interest, and cannot be only a doctrinal stipulation. Otherwise we will have simply the replacement of one propaganda slogan with another, as has happened more than once in the past. Our not very comforting historical experience in this regard shows that one cannot structure a military doctrine on such a foundation.

The prevention of war was undoubtedly an objective necessity during the nuclear-missile age and was dictated by the necessity of survival, but that truth cannot be permitted to take on the nature of some incantation. It is evidently not least for that reason that stipulations on the prevention “not only of large-scale wars, but conflicts of any intensity” alternate even among our leading specialists (the same V.N. Lobov) with discussions of potential adversaries and allies “in possible military conflicts and international operations sanctioned by the world community using military force.”

It would moreover be erroneous, I feel, to include in the structure and substantive core of the updated doctrine what is being proposed in a number of our recent features—stipulations on the prevention of internal as well as external wars. The neutralization of an internal threat should not be the task of the army. That is why I cannot agree with the proposals to develop in military doctrine a mechanism for the “global monitoring of the military activity of all states, oriented both outward (international relations) and inward (social, ethnic and territorial relations).” I think that these functions should be divided up, and the “internal” part of the problem should be the task of intelligence agencies that are not affiliated with the armed forces.

So then, the questions that military doctrine will have to answer can be divided into two groups, the military-political and the military-technical. The first should clearly include questions that pertain to the origins, nature and parameters of military danger and the aims and tasks of military policy arising therefrom. The second is questions that define the structure and composition of the armed forces and the forms and methods of their application. The methodology for evaluating the sources of military danger, of course, should take into account the aforementioned statements of the leadership of Russia that it no longer considers any state or coalition of states to be a potential adversary.

The necessity arises in this regard of answering the question of the substance of military policy in the absence of potential adversaries but with a continued military danger.

This decade will be associated with the varied political, economic, technical and other processes that caused the collapse of the USSR and the excessively high level of military spending in the 1980s, which was unacceptable both for the economy of the former Soviet Union and for the leading countries of the West; the results of the war in the Persian Gulf; and, the Russian and American initiatives in the realm of disarmament and other circumstances of international relations that had appeared by the beginning of the 1990s and are of a long-term nature. Some of those processes are capable, under certain conditions, of leading to the transformation of a potential military danger into an immediate military threat.

These processes are connected first and foremost with the transition from a bipolar to a multipolar system of international relations. The problem, in my opinion, is what will come to replace the confrontation of the blocs, what the vacuum that is taking shape will be filled by. Will the system of international relations become multipolar in a military regard, as well as in the economic and political regards?

Next follows the process of emergence of the nation-state, with all of the attributes of statehood, in the Third World. The course of the war in the Persian Gulf showed that this process occurs under conditions of the virtually complete absence of a civil society in a number of the developing countries in the face of a growth in militarism and the proliferation of weapons of mass destruction.

One must also take into account without fail herein the circumstances of the Russian-American process of cut-backs in nuclear arms. The Soviet Union and the United States have created mutually dependent potentials of strategic defensive and offensive arms, constituting a kind of technosphere with its own logic and inertia of development and definite general laws of functioning. The study of, regard for and management of those general laws are becoming a mandatory condition for preventing increased military danger as a result of a sharp reduction in the number of warheads, changes in the composition of their carriers and disproportions in the systems of strategic defense.

The Russian Federation and the United States should moreover keep in mind, when reducing the levels of SOA, the growing significance of the potentials of the other nuclear powers and guarantees of the reliability of the regime for the non-proliferation of nuclear weapons. The storage, servicing and monitoring of all types of nuclear weapons, both strategic and tactical, of the former USSR plays a particular role in this process. This problem gains increased significance in the case of a worsening of the contradictions among the republics of the former USSR or the subjects of the RF.

And, finally, a worsening of the rivalry for the utilization of natural resources and access to the world's oceans and

outer space may also intensify the process of international economic activity in the 1990s.

Such, in my opinion, are just the principal sources of military danger, and further elaborations in this direction must naturally be continued. It is moreover necessary to proceed from the fact that Russia faces no potential military danger today on the part on the United States, NATO, Japan, China etc., as it used to, but should rather not lose sight of processes such as those cited above first of all.

Having thus considered the meaning of the concept of "strategy" and "military doctrine" under the new conditions, we will try and answer the question of just what alters the proposed approach on a practical plane for the formulation of military policy.

I propose that the system of priorities should be changed first and foremost. Under conditions of an absence of potential adversaries but with a continued military danger, priority in military organizational development should be given to the creation of a corresponding global system of monitoring that would provide for the timely warning of an increased military danger and, where necessary, the concentration of sufficient manpower and equipment in that sector. The idea proposed in November 1991 by current RF Minister of Defense General of the Army P.S. Grachev of a "mobile defense" and the corresponding mobile forces to accomplish it, it seems to me, could be the conceptual foundation for structuring such a system.

The size of the combat-ready forces deployed in this or that sector and the correlation of forces, in his opinion, could be less than those of the opposing side, as the tasks of that group of troops or forces is first and foremost to avert crisis situations and local conflicts and, where it is impossible to block them, to prevent a sharp escalation. The correlation of forces in this or that region after the appropriate regroupings and advances of the mobile forces, however, should reliably provide for the repulsion of aggression. "We will have re-organized armed forces that are smaller in composition and size as a result that provide real restraint (emphasis mine—Yu.G.) but do not create a threat, for which we were blamed in the past."¹⁶

The idea of a mobile defense has deep historical roots for Russia, with the enormous length of its borders in all directions. The first "mobile" subunits in the Russian Army appeared as early as during the era of Peter I. He formed a *corps volant*—that is, a flying detachment—that was made up, aside from cavalry, of several selected infantry regiments for operations against enemy lines of communication. "These cavalry detachments," notes A.A. Svechin, "at a time when there were still no railroads, could more easily be redeployed from one area of the Russian Empire to another, threatened one."¹⁷ The idea of a "strategic cavalry" and sharp rise in maneuvering capabilities was later at the foundation of the military reform of G.A. Potemkin, who made the Russian Army the premier one in Europe at the end of the 18th century.¹⁸

Mobile forces for this purpose ceased to play a strategic role with the subsequent development of "mass armies." We are seeing once again the appearance at the beginning of the 1980s of rapid reaction forces in the armed forces of the United States, able to perform strategic tasks in the face of changed political, economic and technical opportunities for the use of military force.

One may conclude, based on an analysis of operations that have been carried out with their participation, that the rapid reaction forces should be considered not only as "interventionist," but also as the foundation for organizing a mobile defense under certain quantitative parameters. A visible demonstration of that was the results of the war in the Persian Gulf. The United States, in order to create postwar guarantees of security in the region, is wagering not on a permanent military presence, but rather on the development of an operational basis that would make it possible to accomplish the rapid strategic redeployment of manpower and equipment.

Our military collaboration with the United States is gaining new substance under contemporary conditions. I think that it would be the most correct to speak of the maximum utilization of all opportunities for a strategic partnership with the United States. Russia will remain a superpower in a military sense, and no one can yet rival it or the United States by that measure. The question is how to use that potential to benefit our own interests and those of the whole international community.

In the opinion of A.A. Kokoshin, a corresponding member of the Russian Academy of Sciences and a first deputy minister of defense of Russia, at certain quantitative parameters and structure of the nuclear forces (Russia and the United States) they could perform the function not only of mutual nuclear restraint via the threat of inflicting unacceptable damage in a retaliatory strike, but also **the task of restraining the proliferation of nuclear weapons via an increase in the threshold for the use of the status of a nuclear power** for the attainment of political aims by third countries.

Some specialists in Russia and the United States specifically stipulate that cutbacks in the existing nuclear potentials on both sides should not drop below the level of 3,000—4,000 warheads. They explain this by saying that if the superpowers preserve a considerable gap in nuclear might, the status role of 20—30 or even 100 warheads would remain relatively low in the face of the large cost for

such projects. The incentives for joining the nuclear club would be considerably less for a whole series of "threshold" states in that case.¹⁹

That aim would seem to be facilitated to the maximum extent by the framework agreement to reduce strategic offensive armaments to the level of 3,000—3,500 warheads by the year 2003 that was reached by the presidents of the RF and the United States in the course of the meeting in Washington on 16-18 Jun 92.

These quantitative parameters for strategic nuclear forces, in my opinion, should be complemented by the corresponding transformations in the sphere of strategic defensive weapons. A joint Russian-American system for warning of missile attack (PRN) could be created as the first such step.

The prompt set-up of such systems is currently a clearly pronounced reflection of bilateral confrontation. Their zones of responsibility encompass first and foremost the possible areas of launch on each other's territories. The threat of the proliferation of missile and nuclear technologies in the Third World requires a re-orientation of the operation of PRN systems. A space-based group of artificial satellites, located both in geosynchronous orbits and in highly elliptical orbits and called upon to provide a guaranteed warning of a missile attack from any point on the globe and determination of the aggressor country, should be a basic element of those systems.

The Russian-American statement on a global system of protection against limited ballistic-missile strikes that was reached during the course of the Washington meetings of presidents B.N. Yeltsin and G. Bush on 16-18 Jun 92 opens up broad possibilities.

The uncontrolled utilization of outer space for military purposes by third countries is a comparatively new but sufficiently serious threat. One can easily suppose the possible consequences of Iraq's possession of reconnaissance satellites in the recent conflict in the Persian Gulf. It would be advisable, proceeding from that, to study the possibility of collaboration in the creation of a joint system for the monitoring of outer space.

Such, in my opinion, are the basic directions of the work to create a new system of security without, of course, making any claims to the completeness of coverage of the problem. This work should begin with a review of the theoretical scientific fundamentals for the building of such a system, and will require the pursuit of military reform. I would not like to see this process proceed in random fashion, without the proper

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